

# MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL  
RAILROAD AND FINANCIAL NEWSPAPER.

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Anything required for the equipment of a Mill, a Mine, a Shop or a Railroad, you can find some concern among our hundreds of advertisers who will fill your wants to your entire satisfaction. When you need anything consult our Classified Index of Advertisers. It will pay you to do this.

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VOL. XXII.  
No. 8.

\$4.00 per year.  
Single Copy  
10 Cents.

Baltimore, September 23, 1892.



## THE JAMES SMITH WOOLEN MACHINERY CO.

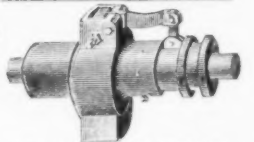
WOOLEN MACHINERY AND CARD CLOTHING OF EVERY DESCRIPTION,  
SHAFTING, HANGERS, PULLEYS AND FRICTION CLUTCHES.

Hub Friction Clutch Pulleys will run 1,000 Revolutions.

411 to 421 Race Street,

Made in sizes from 2 up to 1,000 horse-power.  
More than ten thousand in use.

PHILADELPHIA, PA.



FRICTION CUT-OFF COUPLING.

## SPECIAL NOTICE.

### BRANCH OFFICES

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1145 W. Washington St., Chicago, Ill.  
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201 St. Louis Street, Boston, Mass.  
67 N. Front St., St. Louis, Mo.  
216 Water St., Cleveland, Ohio.

Two handsome photo-engraved display sheets entitled  
"RECENT IMPROVEMENTS IN AIR COMPRESSORS,"  
"RECENT IMPROVEMENTS IN ROCK DRILLS,"

mailed free to any one who will cut out this advertisement and mail it to us with his name and address.

THE INGERSOLL-SERGEANT DRILL CO., No. 10 PARK PLACE, NEW YORK

## The BROWN HOISTING & CONVEYING MACHINE CO., CLEVELAND, OHIO, U. S. A.

MANUFACTURERS AND SOLE PROPRIETORS OF THE PATENTS, APPLICATIONS AND DESIGNS UNDER WHICH THE BROWN HOISTING AND CONVEYING APPARATUS AND VARIOUS TRAMWAYS FOR IT ARE BUILT.

NEW AND COMPLETE LABOR-SAVING SYSTEMS FOR HANDLING OF MATERIALS OF ALL KINDS. MACHINERY SPECIALLY ADAPTED FOR HANDLING PHOSPHATE.

### The Brown Patent

Cable Tramway System.

Suspended Beam Tramway System

Bridge Tramway System.

Shed Tramway System.

Warehouse Tramway System.

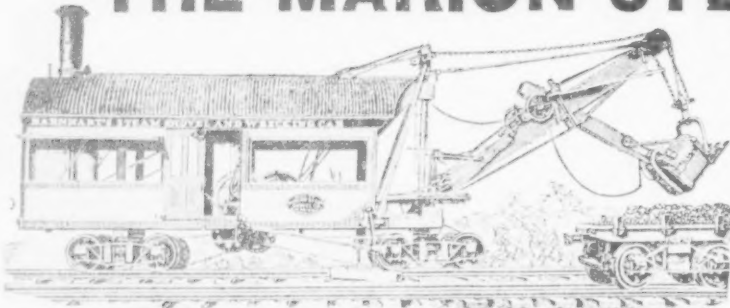
Sewer Machine Tramway System.

Continuous Elevated Tramway System

THE FAYETTE-BROWN PATENT AUTOMATIC FURNACE HOIST.

## THE MARION STEAM SHOVEL CO.

MANUFACTURERS OF

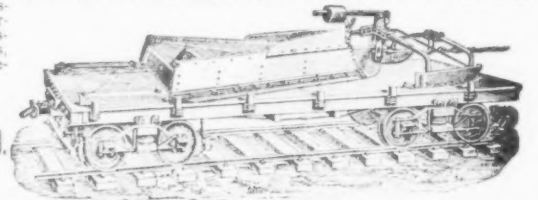


Barnhart's Steam Shovels, Dredges, Ditching Dredges, Railroad Ditchers, Wreckers, Ballast Unloaders, etc. Our Steam Shovels are largely used on Railroads and by Contractors, Brick Manufacturers, and in excavating Iron Ore, Handling Stock Ore, Stripping Coal Fields and Stone Quarries, and are the most desirable machine for any use where excavating machinery can be used. All of our machines guaranteed to give entire satisfaction; otherwise may be returned at our expense. For illustrated Catalogue, Photographs, and any further information desired, address

THE  
Marion Steam Shovel Co.

601 WEST CENTRE ST.

Marion, Ohio.



BARNHART'S BALLAST UNLOADER. No center rib or leader is required.

## THE SOUTHERN SAW MFG. CO.

ATLANTA, GA.

Manufacturers of

### Highest Grade Saws

Also Dealers in Saw Mill Specialties.

OUR INSERTED TOOTH SAWS have been thoroughly tested on all feeds and in all kinds of timber. Saw mill men concede it to be the strongest and easiest adjusted on the market. We guarantee price and quality.

Prompt Attention Given to All Kinds of Repair Work and Satisfaction Guaranteed.  
Write for Catalogue and Prices.



## The National Machinery Co.

Complete Outfits for Bolt and Nut Shops.

TIFFIN, OHIO.

Catalogue and Prices on Application.

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BOLT CUTTERS,

BOLT POINTERS,

NUT MACHINES,

BOLT HEADERS,

NUT TAPPERS,

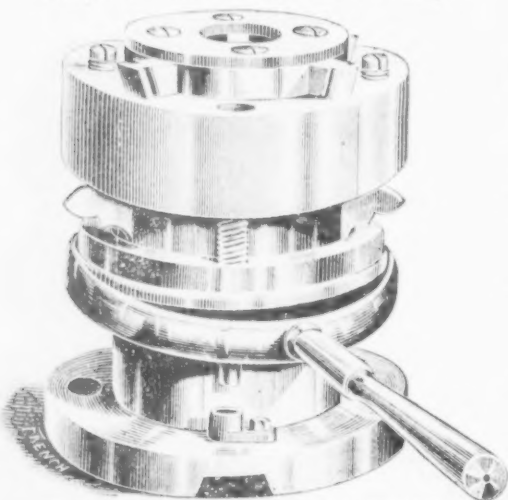
UPSETTERS & BENDERS,

CAR LINK AND

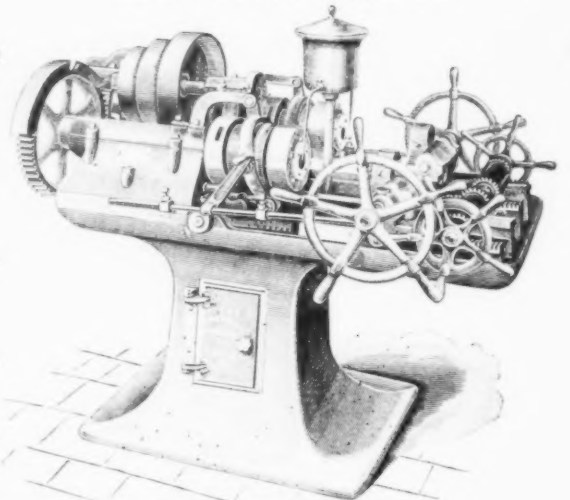
CAR PIN MACHINERY,

WASHER MACHINES,

ROCK AND ORE BREAKERS.



NATIONAL HEADS, Cutting 1/4 in. to 8 inches.



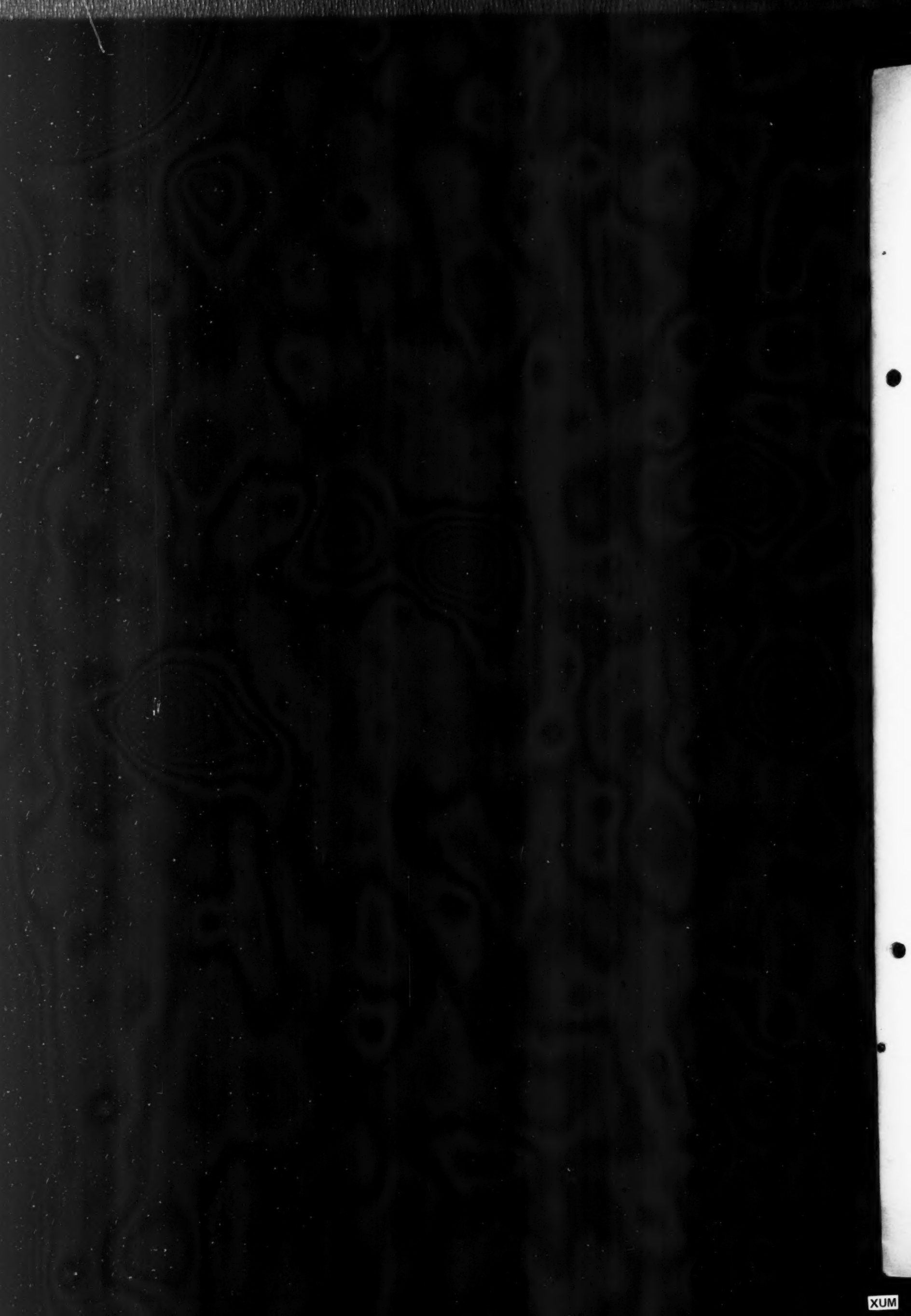
1 1/2 INCH DOUBLE BOLT CUTTER.

Clean Your Boiler Tubes with Abrams Expansion Flue Brush.

Write ST. LOUIS STEEL WIRE BRUSH CO.  
ST. LOUIS, MO., for Circular.









## CLASSIFIED INDEX OF ADVERTISERS.

FOR "ALPHABETICAL INDEX" SEE PAGE 46.

**Acid Chambers.**

Charleston Lead Co., Charleston, S. C.  
Herman Poole, New York, N. Y.  
Valk & Murdoch Iron Works, Charleston, S. C.

**Air Compressors.**

M. C. Bullock, Mfg. Co., Chicago, Ill.  
Ingersoll-Sergeant Rock D. Co., New York, N. Y.  
Morris Machine & Iron Co., Dover, N. J.  
Rand Drill Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.

**Anti-Friction Metals.** [See *Phosphor-Bronze*.]

Amer. Imp. Anti-Friction Metal Co., Mobile, Ala.  
Electric Iron Metal Co., New York, N. Y.  
Paul S. Reeves, New York, N. Y.

**Architects.**

Teague & Mayre, Newport News, Va.  
A. G. Bauer, Raleigh, N. C.  
Gustaf Bottiger, Winston, N. C.  
D. G. Zeigler, Charleston, S. C.  
Charles H. Read, Richmond, Va.  
Wilson & Huggins, Roanoke, Va.  
Griswold & Numan, Owensboro, Ky.  
C. R. Makepeace & Co., Providence, R. I.  
Lockwood, Greene & Co., Boston, Mass.  
Drew, Baldwin & Co., New York, N. Y.

**Architectural Iron Work.**

Toledo Wire & Iron Works, Toledo, O.  
Toledo Cornice Works, Toledo, O.  
Cushman Iron Co., Roanoke, Va.  
Belmont Iron Works, Philadelphia, Pa.  
Champion Iron Co., Kenton, O.  
J. E. Bolles & Co., Detroit, Mich.  
Fred. J. Meyers Mfg. Co., Covington, Ky.  
T. H. Brooks & Co., Cleveland, O.  
P. Duvinage & Co., Brooklyn, N. Y.

**Babbitt Metal.** [See *Anti-Friction Metal*.]**Bankers and Brokers.**

L. Breckinridge Cabell, New York, N. Y.  
Godfrey & Train, New York, N. Y.  
Hopkins, Dwight & Co., New York, N. Y.  
Edward Morton & Co., New York, N. Y.  
Exchange Banking & Trust Co., Charleston, S. C.  
von Hemert & Co., Roanoke, Va.  
N. W. Harris & Co., New York, N. Y.  
John L. Williams & Son, Richmond, Va.  
Middendorf, Oliver & Co., Baltimore, Md.

**Barrel Machinery.** [See *Woodworking Machinery*.]

Crescent Mfg. Co., Cleveland, O.  
E. & B. Holmes, Buffalo, N. Y.

**Bath Tubs.**

Haines, Jones & Cadbury Co., Philadelphia, Pa.

**Bearings.**

N. American Metal Co., Long Island City, N. Y.

**Belting.**

E. M. Freese & Co., Galion, O.  
Cameron & Barkley Co., Charleston, S. C.  
Henry Popham & Son, East Newark, N. J.  
Main Belting Co., Philadelphia, Pa.  
Chesapeake Belting Co., Baltimore, Md.  
Gandy Belting Co., Baltimore, Md.  
Shultz Belting Co., St. Louis, Mo.  
Smith-Courtney Co., Richmond, Va.  
H. W. Caldwell & Son Co., Chicago, Ill.  
American Supply Co., Providence, R. I.

**Belting.** (Chain.)

H. W. Caldwell & Son Co., Chicago, Ill.  
F. H. C. Mey, Buffalo, N. Y.  
Jeffrey Mfg. Co., Columbus, O.  
Link-Belt Engineer'g Co., Nicetown (Phila.), Pa.

**Belt Lacing.**

American Supply Co., Providence, R. I.  
Henry Popham & Son, East Newark, N. J.  
Shultz Belting Co., St. Louis, Mo.  
Bristol's Mfg. Co., Waterbury, Conn.

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Monroe Mfg. Co., Lima, O.

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N. England Vent. & Heat. Co., Providence, R. I.  
Akron Heating & Ventilating Co., Barberton, O.  
West & Branch, Richmond, Va.  
Davidson Ventilating Fan Co., Boston, Mass.  
Geo. P. Clark, Windsor Locks, Conn.  
B. F. Sturtevant Co., Boston, Mass.

**Boiler Compound.**

Kehrhahn & Co., Baltimore, Md.  
H. H. Mansfield, New York, N. Y.

**Boiler Fronts and Fittings.** [See *Boilers*.]

Vulcan Iron Works Co., Toledo, O.

**Boilers.** [See *Machinery*.]

Aultman & Taylor Machinery Co., Mansfield, O.  
S. C. Forsaith Machine Co., Manchester, N. H.  
Delbert Engineering Co., Ltd., New Orleans, La.  
W. C. Leffel Co., Springfield, O.  
John E. Beggs Mch. & Sup. Co., New York, N. Y.  
Golley & Finley Iron Works, Lima, O.  
Ravenna Boiler Works, Ravenna, O.  
J. H. McEwen Mfg. Co., Ridgway, Pa.  
New York Central Iron Wks. Co., Geneva, N. Y.  
Cameron & Barkley Co., Charleston, S. C.  
Holyoke St. Boiler & Iron Wks., Holyoke, Mass.  
Geo. M. Clapp, New York.

Cline Engine & Machine Co., Plymouth, O.  
Harrisburg Fdy. & Mch. Works, Harrisburg, Pa.  
American Well Works, Aurora, Ill.  
Bass Foundry & Mch. Works, Ft. Wayne, Ind.  
Geo. R. Lombard & Co., Augusta, Ga.  
Geo. J. Fritz, St. Louis, Mo.  
Chandler & Taylor Co., Indianapolis, Ind.  
Enterprise Boiler Co., Youngstown, O.  
Taylor Engine Co., Chambersburg, Pa.  
West & Branch, Richmond, Va.  
H. P. Edmond, Richmond, Va.  
Richmond Loco. & Mch. Wks., Richmond, Va.  
Struthers, Wells & Co., Warren, Pa.  
Babcock & Wilcox Co., New York, N. Y.  
H. Dudley Coleman Mch. Co., Ltd., New Orleans.  
Greer Machinery Co., Knoxville, Tenn.  
N. Y. Safety Steam Power Co., New York, N. Y.  
Buckeye Engine Co., Salem, O.  
Stearns Mfg. Co., Erie, Pa.  
Smith-Courtney Co., Richmond, Va.  
Skinner Engine Co., Erie, Pa.  
Talbot & Sons, Richmond, Va.  
Jas. Leffel & Co., Springfield, O.  
Cleveland & Hardwick, Erie, Pa.  
Dan Shea & Co., Memphis, Tenn.  
Oil Well Supply Co., Pittsburg, Pa.  
Tudor Boiler Mfg. Co., Cincinnati, O.  
Valk & Murdoch Iron Works, Charleston, S. C.  
Frick Co., Waynesboro, Pa.  
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Geo. W. Tift, Sons & Co., Buffalo, N. Y.  
Webster, Camp & Lane Machine Co., Akron, O.  
S. D. Warfield Co., Baltimore, Md.  
Valley Iron Works, Williamsport, Pa.

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Sherwood Mfg. Co., Buffalo, N. Y.  
Hine & Robertson, New York, N. Y.  
Penberthy Injector Co., Detroit, Mich.  
Jenkins Bros., New York, N. Y.

**Bolt and Nut Machinery.**

National Machinery Co., Tiffin, O.

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Pennsylvania Steel Co., Steelton, Pa.  
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Washington Hy. P. Brick Co., Washington, D. C.  
Coaldale Brick & Tile Co., Birmingham, Ala.

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Kells & Sons, Adrian, Mich.  
George Carnell, Philadelphia, Pa.  
Walworth Run Fdy. & Mfg. Co., Cleveland, O.  
Whitman Agricultural Co., St. Louis, Mo.  
P. L. Sword & Son, Cleveland, O.  
C. & A. Potts & Co., Indianapolis, Ind.  
Anderson Fdy. & Mch. Wks., Anderson, Ind.  
H. Brewer & Co., Tecumseh, Mich.  
E. M. Freese & Co., Galion, O.  
J. W. Penfield & Son, Willoughby, O.  
Frey-Sheckler Co., Bucyrus, O.  
Chambers Bros. Co., Philadelphia, Pa.  
Fletcher & Thomas, Indianapolis, Ind.  
C. W. Raymond & Co., Dayton, O.

**Bridges.**

S. W. Frescoln, New York, N. Y.  
American Bridge & Iron Co., Roanoke, Va.  
Pennsylvania Steel Co., Steelton, Pa.

**Brown Stone.**

Carolina Brown Stone Co., Raleigh, N. C.

**Building Papers.**

Ehret-Warren Mfg. Co., St. Louis, Mo.  
Standard Paint Co., New York, N. Y.  
Texas Coal Tar & Asphaltum Co., Dallas, Tex.

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Philip Jacobs, Washington, La.  
N. V. Richards, Land and Immigration Agent  
Baltimore & Ohio Railroad, Baltimore, Md.  
A. Jeffers, Norfolk, Va.  
A. V. C. Grant, Ludlow, Ky.  
Lathrop-Hatton Lumber Co., Riverside, Ala.  
North Galveston Association, Galveston, Texas.  
J. J. Frazier, Offerman, Ga.  
S. B. Mosby & Co., Bedford City, Va.  
T. H. Sampson, New Orleans, La.  
P. Duvinage & Co., Brooklyn, N. Y.  
Planing Mill, care MANUFACTURERS' RECORD.

**Canning Machinery.**

S. D. Warfield Co., Baltimore, Md.  
Niagara Stamping & Tool Co., Buffalo, N. Y.  
A. K. Robbins, Baltimore, Md.

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Brown & King Supply Co., Atlanta, Ga.  
Smith, Saunders & Collins, Newton and Charlotte, N. C.  
James Smith Woolen Mch. Co., Philadelphia, Pa.  
Waters & Garland, Louisville, Ky.

**Cars.** [See *Railroad Equipment and Supplies*.]**Car Wheels.**

A. Whitney & Sons, Philadelphia, Pa.

**Castings.** (Brass and Bronze.)

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Haight & Clark, Albany, N. Y.  
Phosphor-Bronze Smelt. Co., Ltd., Philadelphia.  
Paul S. Reeves, Philadelphia, Pa.

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Haight & Clark, Albany, N. Y.  
W. T. Partridge & Co., New York, N. Y.  
Glamorgan Co., Lynchburg, Va.  
Chattanooga Fdy. & P.Wks., Chattanooga, Tenn.  
Howard-Harrison Iron Co., Bessemer, Ala.  
Vulcan Iron Works Co., Toledo, O.  
Todd Pulley & Shafting Works, E. St. Louis, Ill.  
Struthers, Wells & Co., Warren, Pa.  
Manly Machine Co., Dalton, Ga.  
Walker Mfg. Co., Cleveland, O.  
McLanahan & Stone, Hollidaysburg, Pa.

**Castings.** (Malleable Iron and Steel.)

Balto. Mch. Iron & Steel Cast. Co., Balto., Md.  
Chester Steel Casting Co., Chester, Pa.  
Haight & Clark, Albany, N. Y.

**Ceiling.** (Metal.) [See *Roofing*.]

Kinnear & Gager Co., Columbus, O.

**Cement.**

Howard Hyd. Cement Co., Chattanooga, Tenn.

**Chemists.**

Iron Masters' Laboratory, Warrenton, Va.  
John M. McCandless, Atlanta, Ga.  
John Sanderson, Middlesborough, Ky.  
Frederic P. Dewey, Washington, D. C.  
Walter M. Stein, Philadelphia, Pa.  
Philadelphia Metallurgical Wks., Philadelphia.  
Ledoux Chemical Laboratory, New York.  
Dr. Henry Froehling, Richmond, Va.  
Herman Fode, New York, N. Y.

**Clocks.** (Watchman's.)

A. Nanz & Co., New York, N. Y.  
C. D. Berusee, New York, N. Y.

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J. H. & D. Lake, Hornellsville, N. Y.  
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The Moore & White Co., Philadelphia, Pa.  
Taper Sleeve Pulley Works, Erie, Pa.  
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Walker Mfg. Co., Cleveland, O.  
James Smith Woolen Mch. Co., Philadelphia, Pa.  
Webster, Camp & Lane Machine Co., Akron, O.

**Coke Ovens.**

Gates Bros. & Sharp, Corinth, W. Va.  
Walter M. Stein, Philadelphia, Pa.

**Contractors' Machinery and Supplies.**

[See *Hoisting Machinery*.]

Vulcan Iron Works Co., Toledo, O.  
Marion Steam Shovel Co., Marion, O.  
Bucyrus Stm. Shovel & Dredge Co., Bucyrus, O.  
Whitman Agricultural Co., St. Louis, Mo.  
Contractors' Plant Mfg. Co., Buffalo, N. Y.  
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G. L. Stuebner & Co., Long Island City, N. Y.  
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**Conveying Machinery.**

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Weller Mfg. Co., Chicago, Ill.  
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H. W. Caldwell & Son Co., Chicago, Ill.  
McLanahan & Stone, Hollidaysburg, Pa.  
The Jeffrey Mfg. Co., Columbus, O.  
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Sampson Cordage Works, Boston, Mass.

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National Cotton Gin Co., Boston, Mass.  
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Dudley E. Jones Co., Little Rock, Ark.  
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Talbot & Sons, Richmond, Va.  
Van Winkle Gin & Machinery Co., Atlanta, Ga.  
Valk & Murdoch Iron Works, Charleston, S. C.

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Carver Cotton Gin Co., East Bridgewater, Mass.  
Cardwell Machine Co., Richmond, Va.  
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George J. Fritz, St. Louis, Mo.  
Van Winkle Gin & Machinery Co., Atlanta, Ga.  
Talbot & Sons, Richmond, Va.

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Cyclone Pulverizer Co., New York, N. Y.  
F. D. Cummer & Son Co., Cleveland, O.  
W. F. Mosser & Son, Allentown, Pa.  
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Thompson & Campbell, Philadelphia, Pa.  
J. R. Alsing Co., New York, N. Y.  
National Machinery Co., Tiffin, O.  
P. M. Walton, Philadelphia, Pa.  
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Sprout, Waldron & Co., Muncy, Pa.  
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Gates Iron Works, Chicago, Ill.  
American Ore Machinery Co., New York, N. Y.  
Frisbee-Lucop Mill Co., New York, N. Y.  
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Walker & Elliott, Wilmington, Del.  
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Lackawanna Lubricating Co., Scranton, Pa.  
Sherwood Mfg. Co., Buffalo, N. Y.

**Cutter Heads.**

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**Draughtsmen.**

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**Dredges and Excavators.**

Vulcan Iron Works Co., Toledo, O.  
Urie Dredge Mfg. Co., Kansas City, Mo.  
Marion Steam Shovel Co., Marion, O.  
Copeland & Bacon, Philadelphia, Pa.  
Bucyrus Stm. Shovel & Dredge Co., Bucyrus, O.

**Drills.** (Prospecting.)

Sullivan Machinery Co., Chicago, Ill.  
M. C. Bullock Mfg. Co., Chicago, Ill.  
General Electric Co., New York, N. Y.

**Drills.** (Rock.)

Sullivan Machinery Co., Chicago, Ill.  
M. C. Bullock Mfg. Co., Chicago, Ill.  
Rand Drill Co., New York, N. Y.  
Ingersoll-Sergeant Rock D. Co., New York, N. Y.

**Drills.** (Twist.)

Cleveland Twist Drill Co., Cleveland, O.  
Cincinnati Tool Works, Cincinnati, O.  
Graham Twist Drill & Chuck Co., Detroit, Mich.  
New Process Twist Drill Co., Taunton, Mass.  
Syracuse Twist Drill Co., Syracuse, N. Y.

**Drilling Machines.**

W. F. & Jno. Barnes Co., Rockford, Ill.  
Lodge & Davis Machine Tool Co., Cincinnati, O.  
Foos Mfg. Co., Springfield, O.  
Sebastian-May Co., Sidney, O.  
E. Harrington, Son & Co., Philadelphia, Pa.  
H. Rickford, Lakeport, N. H.  
Draper Machine Tool Co., Worcester, Mass.  
Silver Mfg. Co., Salem, O.  
Stow Mfg. Co., Binghamton, N. Y.  
Stow Flexible Shaft Co., Ltd., Philadelphia, Pa.  
Pennsylvania Mch. Co., Ltd., Philadelphia, Pa.

**Dry Kilns.**

F. D. Cummer & Son Co., Cleveland, O.  
Akron Heating & Ventilating Co., Barberton, O.  
B. F. Sturtevant Co., Boston, Mass.

**Ejectors.**

James Jenks, Detroit, Mich.  
Sherwood Mfg. Co., Buffalo, N. Y.  
Pancoast & Maule, Philadelphia, Pa.  
Penberthy Injector Co., Detroit, Mich.

**Electric Light and Power Plants.**

Simpson Electric Mfg. Co., Chicago, Ill.  
John E. Beggs Mch. & Sup. Co., New York, N. Y.  
Jordan & MacLeod, Washington, D. C.  
H. Ward Leonard & Co., New York, N. Y.  
S. D. Warfield Co., Baltimore, Md.  
Rockford Electric Mfg. Co., Rockford, Ill.  
Smith, Saunders & Collins, Newton, N. C.  
Edison General Electric Co., New York, N. Y.  
Heisler Electric Co., Philadelphia, Pa.

**Electric Railway Equipment.**

G. T. Woods Mfg. Co., New York, N. Y.  
H. Ward Leonard & Co., New York, N. Y.  
S. W. Frescoln, New York, N. Y.  
Edison General Electric Co., New York, N. Y.

**Electrical Supplies.**

G. T. Woods Mfg. Co., New York, N. Y.  
Jordan & MacLeod, Washington, D. C.  
John Simmons Co., New York, N. Y.  
S. D. Warfield Co., Baltimore, Md.  
Edison General Electric Co., New York, N. Y.  
Rockford Electric Co., Rockford, Ill.  
Smith, Saunders & Collins, Newton, N. C.  
Heisler Electric Co., Philadelphia, Pa.

**Elevators.**

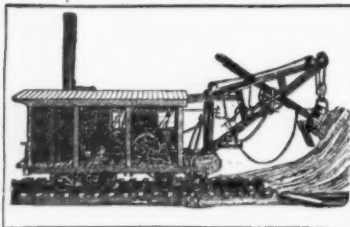
Graves Elevator Co., Rochester, N. Y.  
Otis Bros. & Co., New York, N. Y.  
Howard Fdy. & Mch. Works, Philadelphia, Pa.  
Enterprise Safety Elevator Co., Chattanooga, Tenn.  
Jas. H. Curran, Cincinnati, O.  
James Bates, Baltimore, Md.  
Morse, Williams & Co., Philadelphia, Pa.

**VULCAN IRON WORKS CO.**  
 Our "GIANT" EXCAVATOR.  
 Weight, 40 tons; Capacity,  
 2000 cubic yards per day.



TOLEDO, OHIO, U. S. A.  
 MANUFACTURERS OF  
 DREDGES AND EXCAVATORS,  
 BOILER FRONTS  
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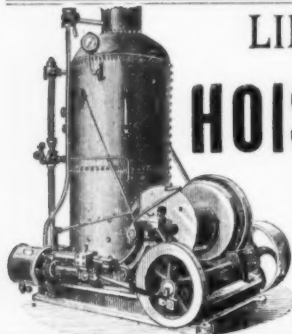
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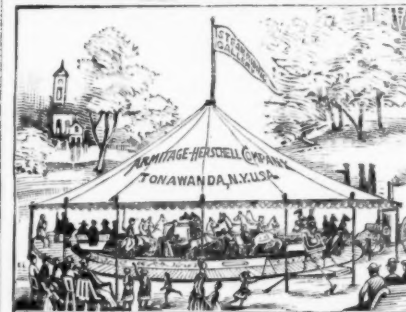
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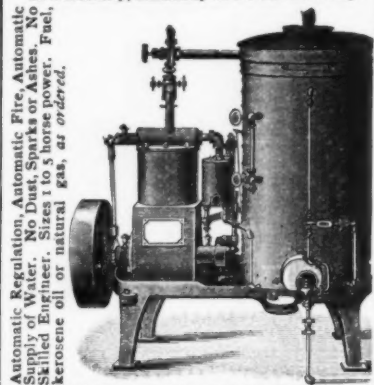
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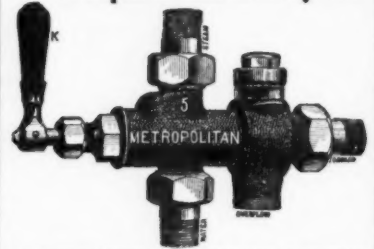
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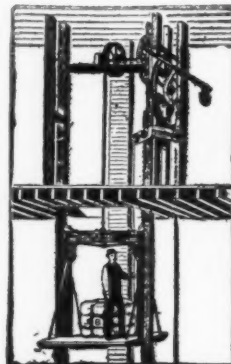
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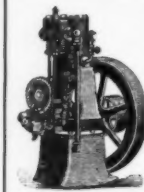
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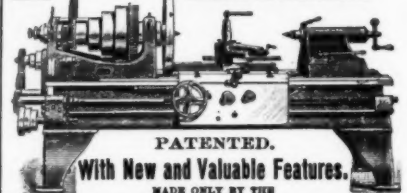


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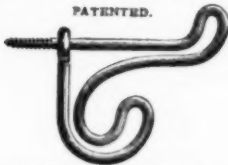
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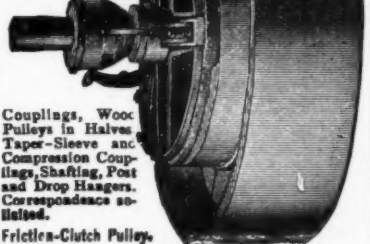
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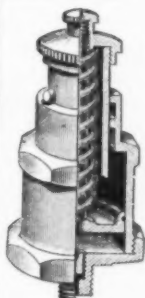
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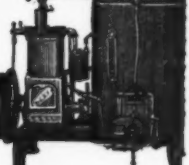
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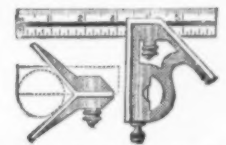
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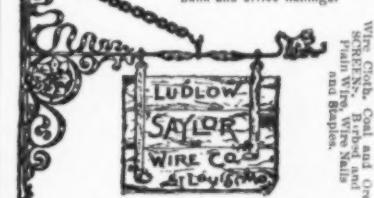
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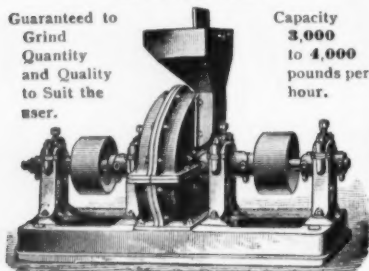
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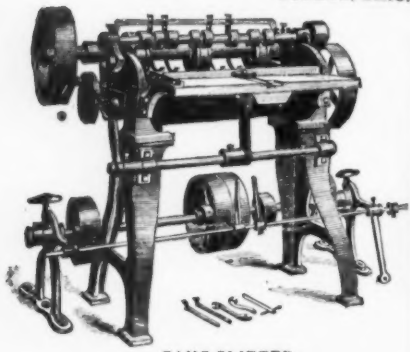
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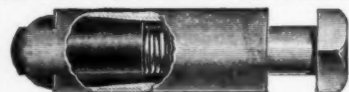
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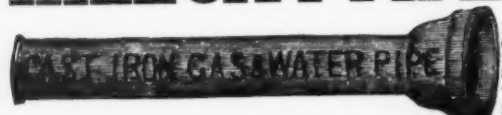
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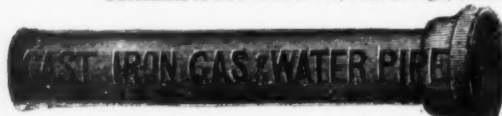
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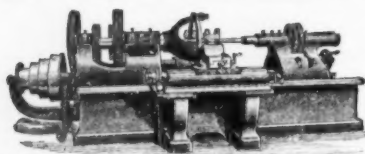
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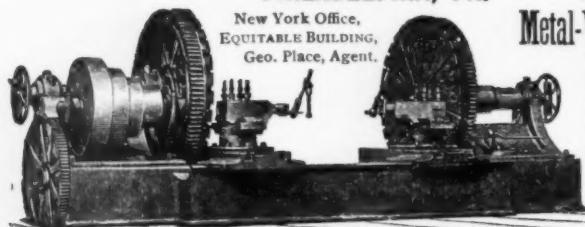
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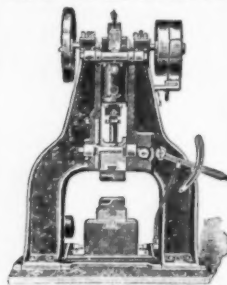
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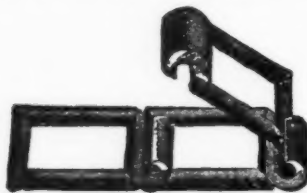
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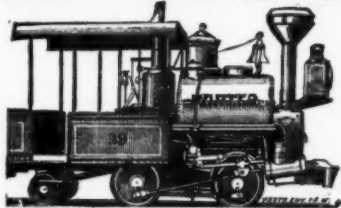
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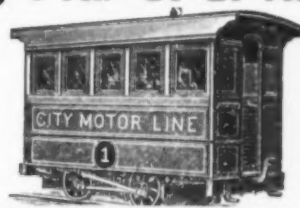
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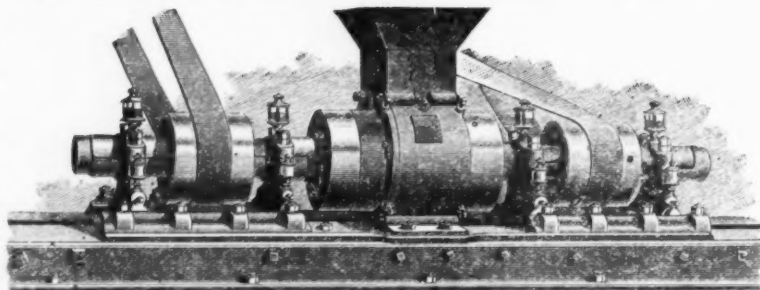
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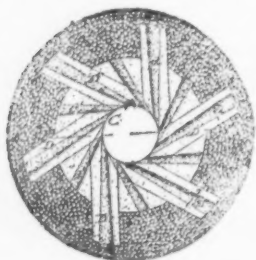
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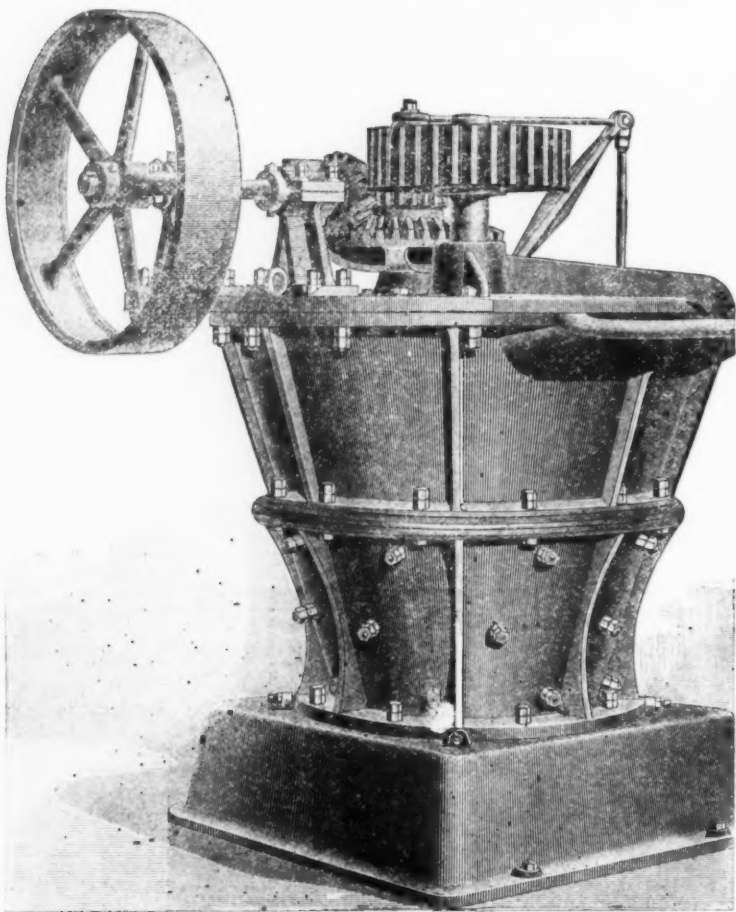
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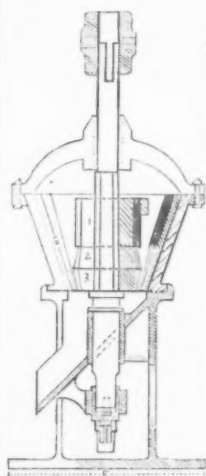
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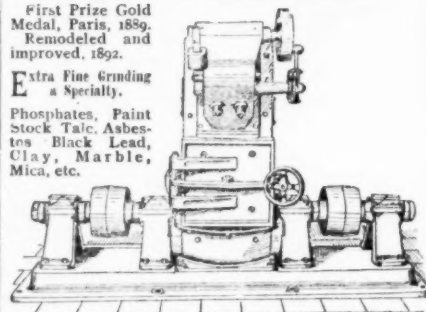
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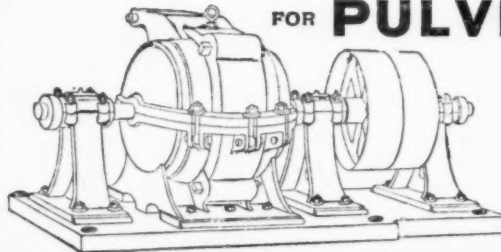
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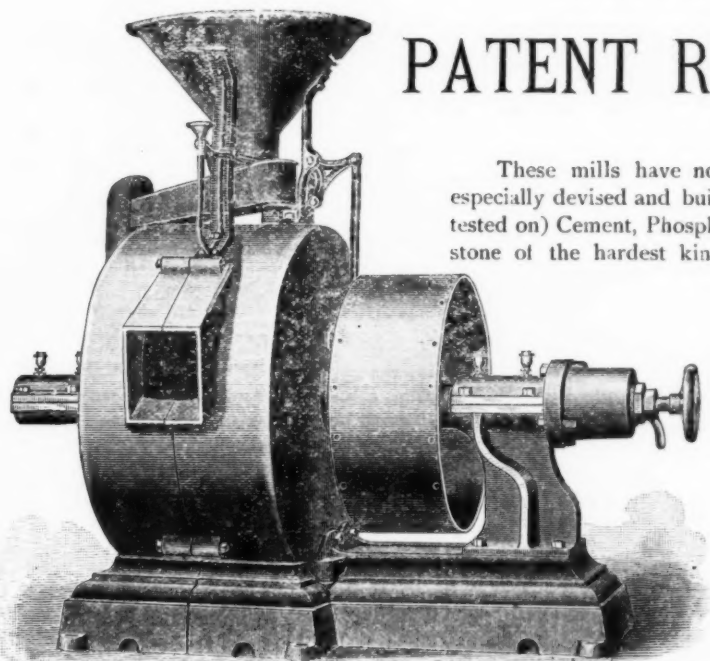
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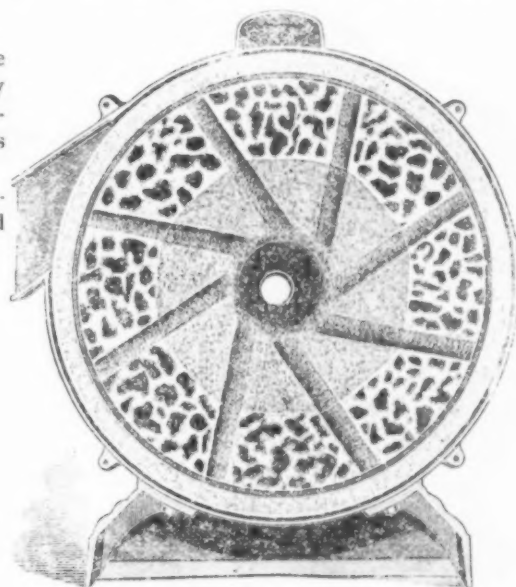
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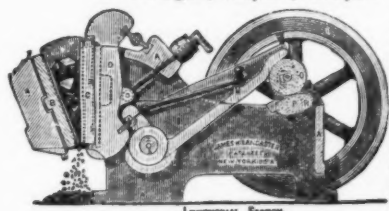
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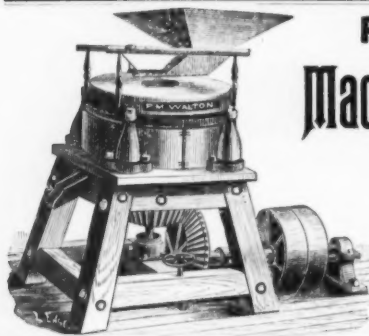
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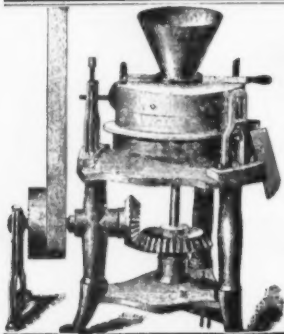
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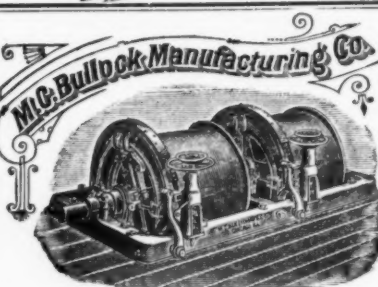


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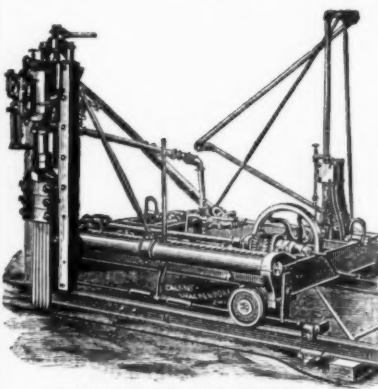
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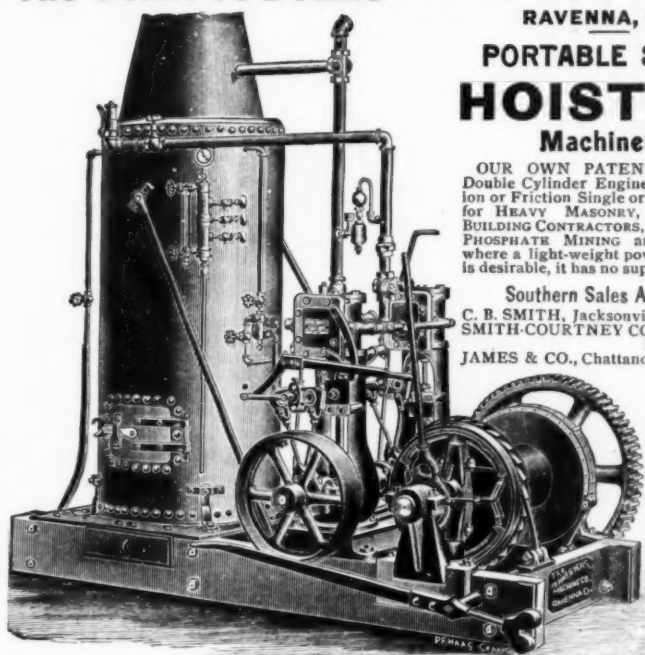
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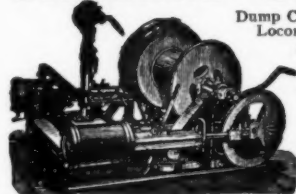
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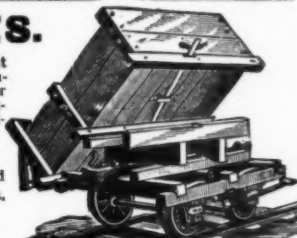
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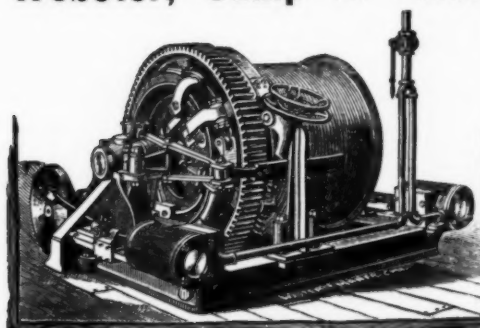
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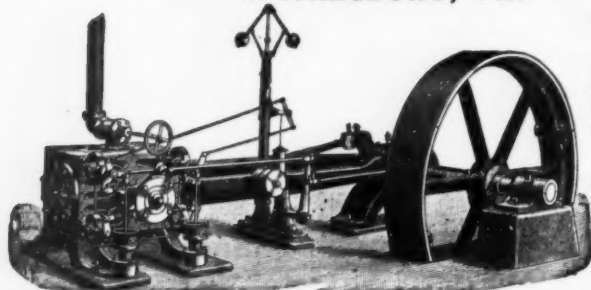
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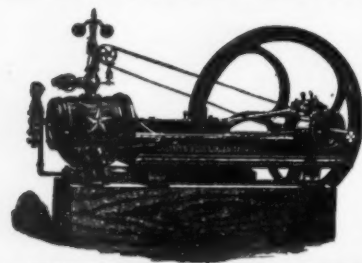
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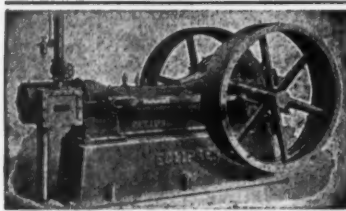
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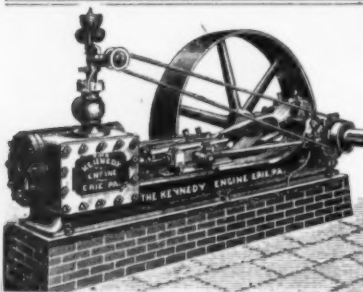
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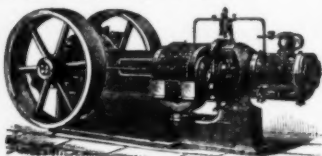
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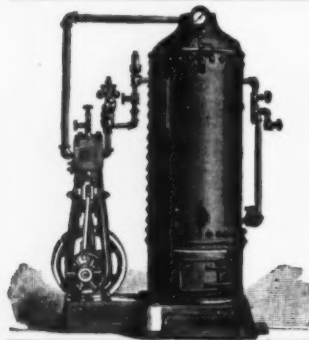
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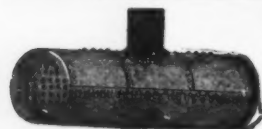


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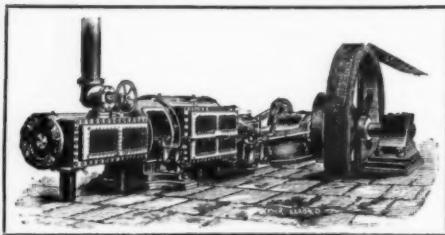
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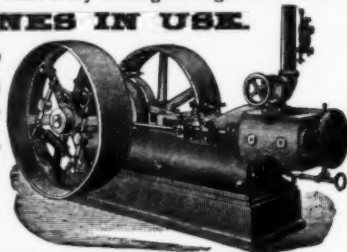
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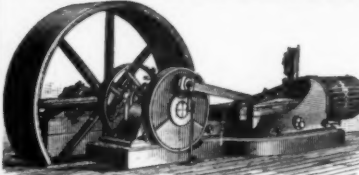
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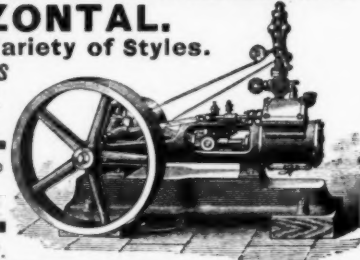
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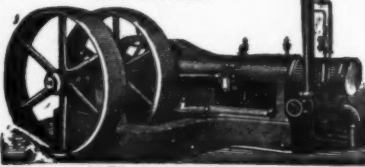
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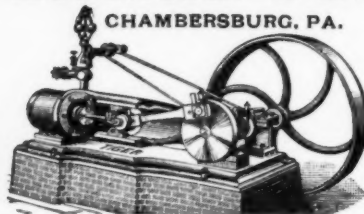


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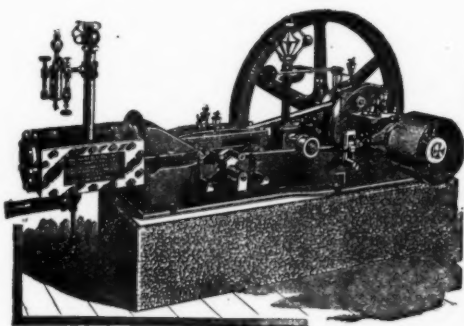
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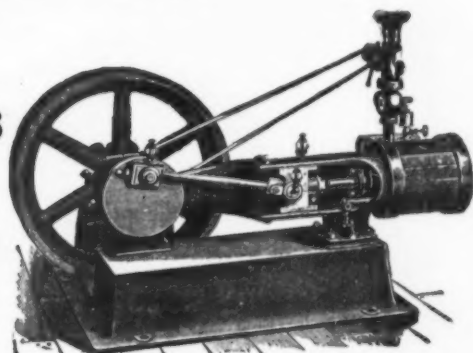
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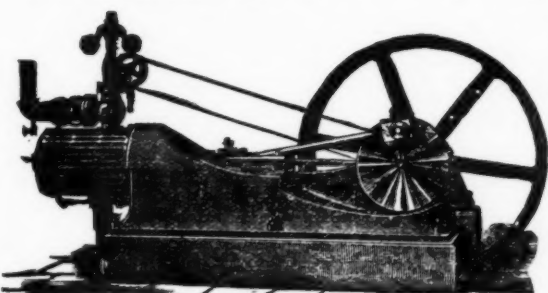
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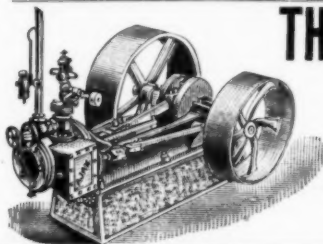
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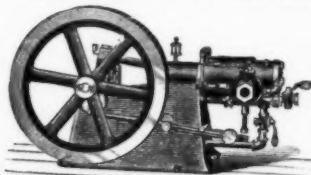
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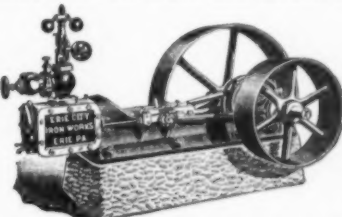
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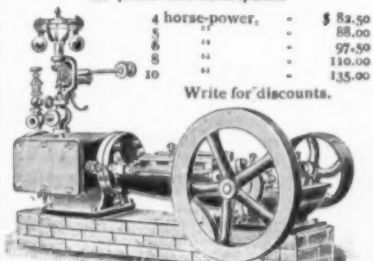
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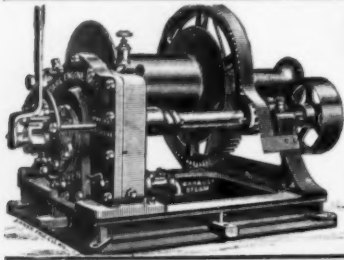
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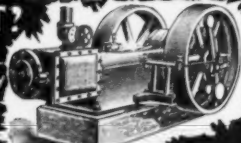
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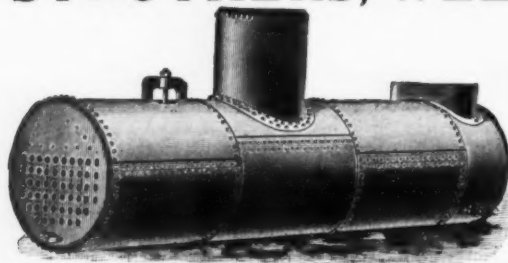
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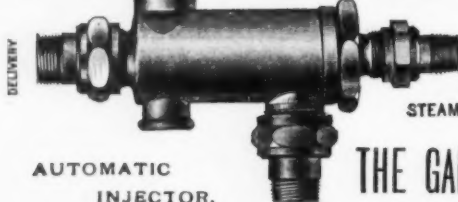
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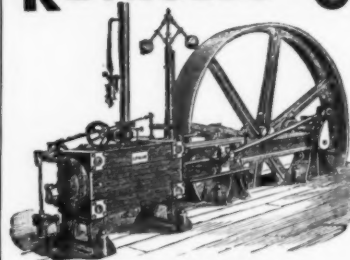
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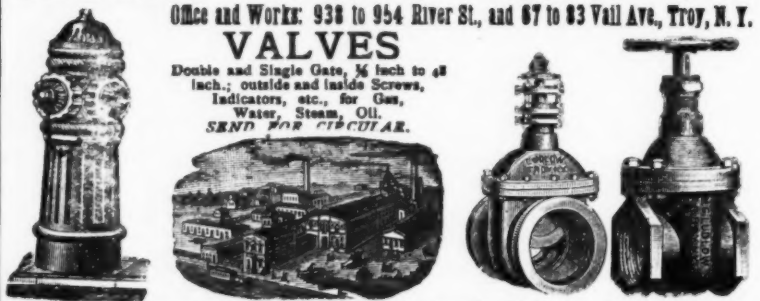
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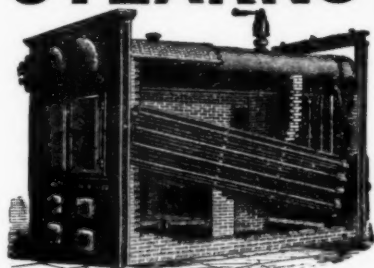
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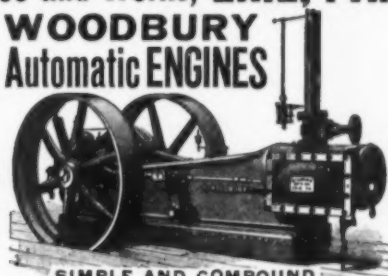
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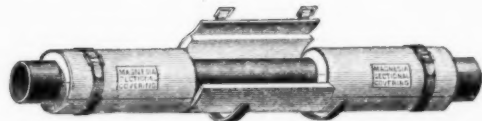
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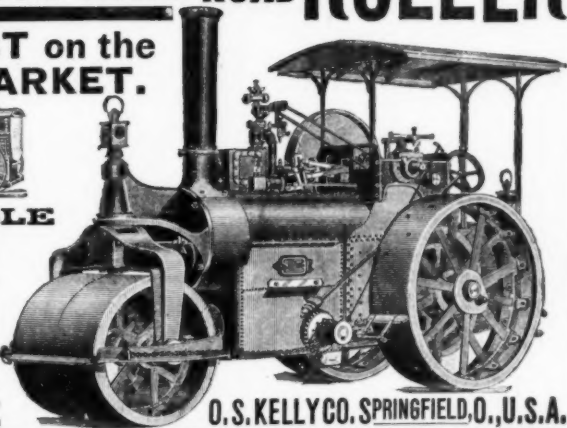
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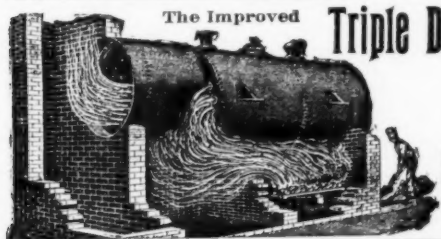
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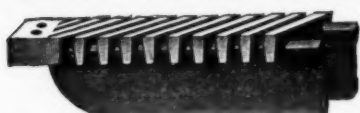
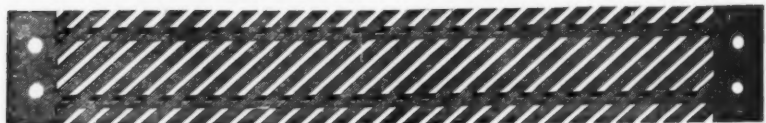
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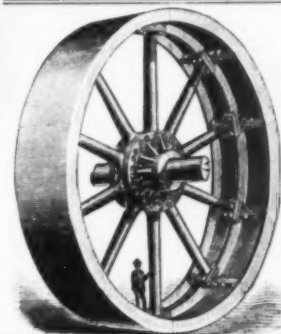
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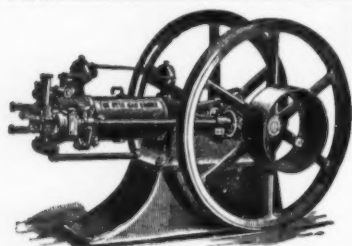
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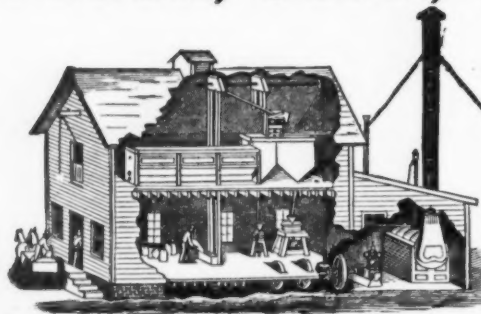
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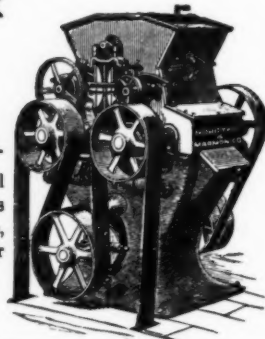
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[Name Patented 1889.]

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VOL. XXII. No. 8. 1  
WEEKLY.

BALTIMORE, SEPTEMBER 23, 1892.

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## Improved Financial Conditions in the South.

By Richard H. Edwards.

"Two years ago," said a cashier of an Alabama bank a few days since to the writer, "every merchant in our town was in debt, and we had to decide how far the bank could help them; now all of these merchants are discounting their bills. The great change in their financial condition has been due to enforced economies, to more careful business methods and to carrying smaller stocks of goods. We had a big boom, but, unfortunately, it was largely engineered by somewhat unscrupulous speculators, who brought much bad repute upon the whole place. We have finally got rid of all of them, and for two years our business men have settled down to hard work, to the payment of debts and to the pushing of their trade on a solid and substantial basis. The result is that our town is growing right along, the idle factories started up during the boom without sufficient capital are one after another passing into new hands and being put into operation on a money-making basis. We have a furnace with \$150,000 cash working capital ready to go into blast as soon as the iron market improves; we have an iron-ore mining company which pays 100 per cent. dividends regularly every year, and, in general, we feel that the outlook is extremely prosperous. Northern and Western people are constantly dropping in to see the town, and many of them settle with us."

"As regards the financial condition of the farmers," said the gentleman, "the prospects are for a large cotton crop, but it has been raised at a lower cost than any crop since the war. Our farmers turned their attention to diversified agriculture last year, and the results have been extremely gratifying. One year ago thousands of bushels of Western corn were brought to our town for local use; this year we had enough for home consumption and have been shipping carload after carload away. I think this is true of most of the South. With plenty of grain and with cotton produced at low cost and without much money having been advanced on the crop, I am sure Southern farmers will make money even if cotton does sell very low. In my section we are having a gradual increase of farming population in the way of well-to-do Western people, as every now and then some farm is purchased by these newcomers, who raise general crops and only cultivate cotton as a surplus money crop."

Continuing his discussion about the South and its future, this long-headed cashier, who went from the North to Alabama a few years ago, added: "If a place could be found in my native country having the advantages and resources of the section where I now live, people would be tumbling over each other to get there and to buy property. With such a contrast between the two sections it is only a question of time when the best portions of the South must attract very wide attention. Since I have been South I have invested hundreds of thousands of dollars for my Northern friends, but I have been extremely careful and hence have made no bad investments. In every case at least 6 per cent. has been

made, even during the dull periods of the last two years. Unfortunately, however, the swindling schemes like the Georgia & Alabama Development Co. and Cardiff have caught thousands of New England people who could not discriminate between the good and the bad, and in my recent trip North I have run across a great many who lost in these things and hence are afraid of Southern investments."

Such are the views of a clear-headed New Englander, who, locating in the South several years ago, has devoted his energy and capital to the development of his banking and other interests on a legitimate business basis. It is needless to say that his views are correct. The South is gradually, like the merchants in his town, working itself out of debt, developing its industrial interests solidly and profitably, diversifying its agriculture, constantly drawing well-to-do settlers and increasing in wealth despite the dullness which the business world has been experiencing for two years.

## The Situation of the Southern Planter.

[From the Textile Record.]

Behind every cloud there is a silver lining, and growing out of the present depressed condition of affairs in the South, due primarily to the low prices for cotton and the dullness of the iron and lumber trades, economical practices have been injected into the business body of that section that are rightly regarded by thoughtful men as the beginning of a new and better condition of affairs.

The cotton planters are to the South what the farmers are to the West, and any improvement in their condition means an improvement to the whole Southern situation. The cotton planter, as a matter of fact, has always been more closely allied to the merchant than the Western farmer ever was, in that he is dependent upon him even for his food. With broad acres of fertile lands under cultivation the cotton planter, with an absence of forethought that is largely the result of common practice of years, has never raised his own supply of vegetables for the year or grown the fodder for his stock. These he has had to buy, often at extravagant prices, because when cotton was commanding fifteen to twenty cents a pound it paid him to raise nothing else. His food and other necessities had to be provided for in some other way, and right there came the opportunities of the cotton "factor."

The latter is practically the backer of the planter, and the business methods existing between the two can unquestionably be blamed in part for the present depressed condition of affairs. Under the agreement made between them the "factor" furnished the planter with all his supplies, the latter to be paid for out of the proceeds of the crops. In return the planter placed his cotton in the hands of his factor to be marketed, and received from the latter whatever was left after his advances and commission had been deducted. The needs of the factor's business were such that he must necessarily be a wholesale grocer, and today some of the largest wholesale grocery establishments of the South are those run in connection with the cotton factoring business.

These relations, meant in the first place

as a convenience, have led to abuses, and it can readily be seen that where no money changed hands the planter, with practically unlimited credit, was easily led into extravagant habits. With competition among the "factors" for clients advances were often made beyond the line of discretion, but not until cotton reached the present low level of value were the dangers of the situation appreciated. The planter's supplies came to him easily and he used nothing but the best. His plantation was often left in the care of hired help, and in many ways were the economical methods wanting that are necessary to continued prosperity. With few exceptions only half enough fodder was raised for the use of the home stock, and before the end of the year it was more often necessary to begin buying feed for the cattle at big prices.

The receding value of cotton left the planter a smaller cash balance with each succeeding year, but it was not until the last crop was marketed, at the lowest price on the average ever attained, that the cotton factors became thoroughly alive to the dangers of the situation. The amount obtained for the cotton was not sufficient in many instances to satisfy the advances made in supplies, and the coming crop year began with the planters in debt for last year's necessities.

As a result the factors have grappled with the situation and have enforced economies that are new in the Southern planter's household. The latter has been cut down to practically actual necessities, and instances are related of country merchants who have failed to lay in the usual supply of bacon so that they could truthfully and the more firmly refuse the small planter who applied for his usual ration on credit. A cash order would be forwarded to the larger markets to be filled, and while the refusal of the less fortunate planter meant no reflection on his honesty, it was a stringent measure against contracting a doubtful debt in view of existing conditions.

The planter, limited in his supplies, has felt the need of self-assistance, and the decreased acreage of cotton shown in the government and other authentic reports is explained in part by the larger and more numerous fields of growing corn and vegetable patches. In some sections of the South the decreased acreage is estimated to be as high as 20 and 25 per cent., and well-posted authorities, after careful research, estimate the coming crop at not more than 7,500,000 bales.

This is 1,500,000 bales below the last crop, but as an offset to this there is a visible surplus of about 1,600,000 bales, and the world's consumption of American cotton has never exceeded 8,000,000 bales a year.

But it is not upon higher prices that the hopes for an improvement are based altogether. The point made is this, the coming crop of cotton will be the cheapest that was ever raised, and even should the planter fail to receive any higher price for his cotton than he did for the crop now being marketed, he can accept the same figures and be considerably better off financially.

The decreased use of fertilizers is another instance of the economy practiced, and while the latter may have been pushed to

unwise extremes during this season, the habits of thrift learned from force of necessity will be lasting in their effects.

## Zinc in Arkansas.

By Macbeth Young.

In the broken mountainous valley of the White river and its tributaries, skuate between the Ozark and Boston mountains, respectively, on its north and south, there are found some of the most remarkable deposits of mineral ores and stones of commercial value in America. I shall only speak of the territory embraced by the counties of Newton, Searcy, Boone, Marion and Baxter, in the State of Arkansas, because of my familiarity through travel and investigation and research through them. I noticed with much pleasure your short but truthful editorial some time since upon the remarkable undeveloped mineral resources of Arkansas. It is a fact much to be deplored that none of our people seem inclined to allow the outside world to know anything of our great hidden wealth, but they are partly excusable in this portion of the State, thinly populated, rough, rocky and mountainous. The most of their attention for the past thirty years has been strictly upon their farms in the race of "bread winning." Besides, until recently we did not have the least idea of the vast deposits of valuable mineral ores right at our very doors and in sight. Of the valuable ores I have been shown by a thorough investigation of this area are iron, manganese, aluminium, copper, lead and zinc, and of the commercially valuable stones are marble of all shades and colors and pure white to jet black, onyx of a high grade and of almost every color, limestones and sandstones. If such could with propriety be said of this country in relation to zinc ores, I would say it was a veritable *sui generis*, for it is certainly the natural home and abiding place of zinc ores; and as the ores of zinc are the most common and abundant and persistent, I will confine my paper to them especially. Those ores of zinc found here in quantity and quality and superabundance are:

Sphalerite (zinc blende,  $Zn S$ ).

Smithsonite (carbonate,  $Zn CO_3$ ).

Willemite (silicate,  $Zn_2 Si O_3$ ).

(Hydrozincite (hydrous carbonate,  $3 Zn CO_2 + 5 (Zn O H_2 O)$ ).

These ores, so far as development shows, are nearly free from any intermixtures of lead, pyrites of iron or copper, the most common foreign associate being calcite, "tuff" so-called by the prospectors, and dolomite.

The mountains are formed by horizontal strata of rock. If it were not for several well-defined faults, covering small local areas, there would be no perceptible evidences of any disturbing forces having been at work, so regular are the different strata one upon another like stairsteps up a mountain side. But the merciless processes of disintegration and erosion have been at work, have worn deep valleys, dark gulches and perpendicular bluffs on the river courses. We generally find this formation throughout the territory when a well-defined and deep ravine cuts through the face of a mountain. Starting from the top down we find:

1st. Strata of chert rocks (flint).

2d. Red and gray marbles.

3d. Sandstones (often white and saccharoidal).

4th. Magnesian limestones, etc.

Below the last we find strata of limestones and sandstones, and on the chert bed in some localities we find a sandstone, and between the second and third we sometimes find strata consisting mainly of siliceous limestone and sandstone. Of course, I should have said the geological formation of this area is known as the Sub-Carboniferous and Lower Silurian.

I have seen magnificent specimens of the above-named zinc ores occurring in marble, sandstone, quartzite, siliceous and magnesian limestone, and making a beautiful conglomerate by cementing together broken chert and magnificent laminations of a laminated limestone with the ores of zinc. But its most common and persistent occurrence in quantity in this area is in the chert beds and limestone, cementing together the broken chert filling the crevices and interstices between the strata of rocks, impregnating and filling the siliceous limestone and in the clay and soil, and these show under judicious development magnificently. The purity, beauty and variety of these ores never fail to please the eye of the pessimistic geologist or mining engineer or expert reporter sent here to report on properties, and as a consequence they always not only give this territory a glowing tribute, but ship hundreds of pounds of zinc ore specimens to their *alma mater* or the scientific institution with which they are generally connected. The territory being mountainous, broken and so cut to pieces by ravines reduces the expense of mining to a minimum. Drainage is almost entirely eliminated; the floors and roofs of cuts, slopes and tunnelings being of solid rock, the cost of cribbing and timbering is almost done away with. The matrix carrying the ore being a horizontal stratum outcropping along the mountain side, often well defined for miles and miles and extending into the mountain indefinitely, all being in most instances above the water level, is going to make Arkansas zinc mining very much of a paying business in the future.

Two years ago this territory was not prospected; to-day we have over 4,000 mining claims staked upon well-defined outcroppings. Twelve months ago there was not a railroad within 100 miles of here, and no hopes of any; to-day the construction of the Springfield, Yellville & White River railroad is being pushed for all it is worth right through the heart of this mineral belt. Twelve months ago there was no regular zinc mining in here; to-day there are several working mines, producing the finest grades of zinc ore at seventy-five cents per ton, needing no washing or crushing. These figures can be verified. The ore is worth to-day \$20 per ton for carbonate and \$20 for blende delivered upon the banks of White river, a beautiful stream, navigable nine months of the year. Your magnificent progressive journal, always in the lead to point out the native wealth and development of the South, and North Arkansas being as much a part of the South as Middle Florida, I take great pleasure in offering this information for your readers to digest.

A PROMINENT London journal declares that the financial crisis, which was first shown in the failure of the Baring bank, is becoming more acute. The situation, it adds, is rendered worse by the efforts during the past two years to temporarily postpone the inevitable result. Within the past few days a number of West End clubs have been definitely closed, several London journals are on the verge of disaster, five of the largest and most important estates in England are to be sold, several commercial firms of hitherto good standing are now distrusted, and the number of well-known men prominent as society entertainers is vanishing.

### Atlanta as a Manufacturing Centre.

By Col. L. W. Avery.

The official figures of 1891 in Atlanta show a striking record of varied manufactures. If she keeps up her lick, as she can, she can become the manufacturing centre of the South.

Near to every kind of raw material and fuel and to cheap food for labor, healthful, railways radiating everywhere to distribute products swiftly and cheaply, and with the best trade means, she has but to foster new industries by liberal laws and kindness to win industrial, with trade and railroad, supremacy.

In 1880 Atlanta had 196 factories with \$2,468,456 capital, 3,680 hands, making \$5,000,000 worth of product.

In 1891 Atlanta had 633 establishments with \$16,199,000 capital, 15,208 hands, making \$33,612,000 worth of products. The increase in eleven years was 437 factories, \$13,721,544 capital, 11,528 hands and \$28,612,000 in products.

All raw material—iron and metals, marble and granite, soft and hardwoods, animal and vegetable fibre, meats and fruit and vegetables, steam coal and other material for successful industry known to men—are in stock or easily brought at low cost and short distance on the many railways into the city, while in and around are exhaustless clays for brick, sewer pipe and terracotta.

Labor is abundant, skilled and unskilled, at reasonable wages. Women, girls and boys seek work at \$2 to \$5 a week; day laborers at 75 cents to \$1 a day, and mechanics at \$1.25 to \$3.50 a day.

By the census of 1880 among fifty principal cities Atlanta was the third in the percentage of people engaged in gainful operations, Lowell being first and Lawrence second. This is a practical distinction.

This table of Atlanta's manufactures in 1891 is significant, honorable and full of fine augury for her future:

ATLANTA'S MANUFACTORIES—1891.

	Plants.	Capital.	Hands.	Value Products.
Foundries, etc.	25	\$3,250,000	3,150	\$6,150,000
Brick	12	925,000	725	1,800,000
Contractors	85	625,000	950	4,500,000
Carriages and wagons	18	300,000	160	2,800,000
Furniture	9	725,000	750	2,000,000
Lumber	30	1,250,000	300	1,500,000
Cotton factories	3	1,200,000	1,100	1,300,000
Cottonseed mills	4	950,000	550	1,250,000
Fertilizers, etc.	7	1,250,000	300	1,500,000
Ice factories	4	200,000	50	100,000
Marble and stone	9	75,000	60	150,000
Mattresses and spring beds	4	95,000	225	350,000
Patent medicines	13	225,000	150	1,100,000
Tinware	2	75,000	75	250,000
Trunks	2	85,000	275	250,000
Glass	1	75,000	175	275,000
Planing and box mills	15	350,000	450	725,000
Showcases	1	5,000	30	50,000
Soap	1	25,000	30	85,000
Terra-cotta	1	20,000	35	60,000
Saw works	1	10,000	20	35,000
Wire works	2	10,000	18	32,000
Coin-makers	2	275,000	450	500,000
Bridge works	1	100,000	30	100,000
Paint works	3	40,000	30	100,000
Bags, paper, etc.	3	350,000	500	850,000
Miscellaneous	375	2,500,000	2,500	5,500,000
	633	\$16,199,000	15,208	\$33,612,000

The four leading industries are the iron, cotton, lumber and fertilizer manufactures, the first leading in both importance and magnitude.

The details of manufacturing growth in Atlanta will require another article.

It is necessary to emphasize the important fact that Atlanta's hosts of attractive suburbs, connected to the city by swift lines of smoothly running electric cars, with cheap fares, present the finest chance in the whole country for mechanics and all laboring men to get delightful homes of their own at low cost, with sun shine, shade, gardens and sweet air and health for themselves and families, away from the close confinement and impure atmosphere of a crowded city and from the cholera, and with schools and churches for the children. The East Lake suburb is arranging for its electric lines and lights and its fine hotel for guests.

Atlanta is the very place for workingmen.

### Rice in Southwest Louisiana.

[From the Lake Charles American.]

One of the great food crops of the world is rice. Heretofore the United States has only produced about one-half the rice consumed by her citizens, but since the opening of the new and rich rice fields in Southwest Louisiana the production of this valuable cereal has rapidly increased, so that we may reasonably expect that the time will soon come when we will raise all the rice we will need, unless the consumption of rice rapidly increases.

In the region embraced in Southwest Louisiana, including a territory of nearly 100 miles square, there is more good rice lands than in any other portion of the United States. These lands are more easily brought into cultivation and can be more easily handled than almost any rice lands in the world.

The rainfall of this region is so regular and abundant that the process of irrigating or flooding is greatly simplified and cheapened, and the lands are so rich and productive that vast profits are realized by the energetic rice farmers.

Last year one farmer in this parish sold a crop of forty acres for more than \$3,000. This, of course, was an extra large yield, but frequently rice farms yield from fifteen to twenty barrels per acre, which sells in the rough for \$3.50 to \$4.50 per barrel.

Three years ago last spring Mr. Robert Hall, from Cherokee, Iowa, paid \$800 for 160 acres of rice land. He paid \$400 for fencing and putting a small house on the land, and then rented it for one-third of the crop. He returned home for the summer and came back here in the fall when his rice was threshed and sold his third for \$1,500. Many such instances as those could be related, and the facts proved by investigation.

One thing that is likely to strike the mind of a man in the old settled portions of the country is, how is it that land is so

bound to go up to \$50 to \$100 per acre.

The expense of raising rice is about the same as raising wheat after the land has been prepared. It costs on an average about \$3 per acre for fencing, leveeing, ditching, etc. Rice is a much surer crop than wheat and can be raised at a profit if the price is as low as wheat.

Many enterprising citizens from the North are here energetically pushing the rice industry, and the native farmers are showing themselves just as enterprising and successful as their Northern brethren. Gang plows, cutaway harrows and now steam plows are being used, together with press drills, in putting in the crop. Self-binding harvesters by the hundred are annually sold for the harvest, and steam threshers thresh the grain.

The straw is valuable for feed, being better than the best prairie hay. It is also valuable for paper-making.

Messrs. Jahn & Co., of New York city, who have been in the rice-milling and sugar-refining business for years, have commenced operations for putting in the finest rice mill in the world here at Lake Charles this fall. The site is purchased, the machinery is bought, and Mr. Vardell, the superintendent, will be on the ground this week to begin the erection of the mill. The company will put \$200,000 into this enterprise, including \$50,000 subscribed by our citizens.

The mill will be of brick, and will contain the very latest and best machinery for rice milling in the world. Large water-proof warehouses will be built, and the company will expect to handle the entire rice crop of Southwest Louisiana.

The building of this mill, which will be in operation this fall, will be of the greatest importance not only to Lake Charles, but also to this entire region. It will greatly stimulate the production of rice and greatly increase the value of rice lands. It will protect the farmers from the ruinous rice trust and greatly increase their profits. It will furnish, in the offal, a large amount of cheap feed. It will greatly increase the already great prosperity of Southwest Louisiana.

### Washington, La.

The little town of Washington, in St. Landry county, Louisiana, forms the basis of an interesting letter from M. B. Hilliard, a staff correspondent of the New Orleans Times-Democrat.

The town lies on the Cortabean river in the midst of a fine rolling country. The soil is rich and tractable, suitable for raising sugar-cane, corn, fruits, vegetables or rice, and the surrounding country is heavily timbered with fine hardwoods. By means of the river or either the Texas & Pacific or Southern Pacific Railroads the best transportation facilities to market are assured. For a paper or rice mill or a sugar refinery no better location could be found, as a large area of country now tributary to New Orleans could be drawn upon.

At Beggs's Station, a few miles from Washington on the Southern Pacific Railroad, and also at Palmetto, a representative of Edward Alcott, of London, is operating three saw mills, cutting hardwood and shipping to England. The land cost from three dollars to five dollars per acre and ranges between 15,000 and 30,000 feet of lumber per acre. This lumber is sent to New Orleans by rail, thence shipped to Belfast, where it brings \$120 per 1,000 feet.

Towns of this kind have made the fortunes of many enterprising men. With rich resources around it, both agricultural and in timber; with transportation facilities to the second largest export port in this country and within easy reach of St. Louis and other large centres, there appears to be an opportunity here for planting enterprises which will benefit their owners and the town and country around them.



WORLD'S FAIR NOTES.

What Is Being Done Towards Representing the South at Chicago.

ALABAMA.

It is very probable that a fine exhibit will be gotten up for the coming State fair, to be held at Birmingham in November, with a view to using the same as the nucleus of Alabama's exhibit at Chicago next year. The assistance of Messrs. Bromberg and Hundley, national commissioners for the World's Fair, will be solicited, and the co-operation of all who are interested in seeing the State creditably represented at the exposition.

NORTH CAROLINA.

The plans for the State building at Jackson Park, Chicago, are now ready, and it is probable that work on it will begin soon. Good progress is reported as being made in the collection of exhibits for this State. Active operations have begun in the forestry division in the collection of fine specimens of all varieties of trees native to the State. The horticultural division is doing well, but in the agricultural department least progress is being made, owing to crops not being in a stage to permit a full collection of specimens. A very attractive feature of the exhibit will be the way in which it is contemplated to represent the magnificent scenery of North Carolina. It is found that enlarged photographs do not give the desired effect nor do justice to the grand and sublime views found in the mountainous regions of the Old North State. It is probable that this rarely beautiful scenery will be reproduced in a series of oil paintings each 5x10 feet in size, and painted by a scenic artist recommended by the World's Fair Commission. It is stated that the exhibition of gems and precious stones from North Carolina will surpass anything in this line ever made in the State. The gems will be cut and of the finest character, and will occupy a case twenty feet long and three feet wide.

LOUISIANA.

At the last meeting of the Louisiana World's Fair Board resolutions were adopted authorizing the building committee to solicit bids for the erection of the State building; also contributions of material for its construction were ordered to be solicited. The Creole kitchen in the Louisiana exhibit is expected to prove an attractive feature. Dishes will be served in Creole style by native Creole cooks and waitresses. The Ladies' Association has arranged for several of the experienced and well-known leaders in this line to go to Chicago to superintend the kitchen. The committee on literature have determined that an illustrated album shall be prepared of all the noted female authors of Louisiana for the literary department of the exposition. The book will contain interesting views of the homes and study-rooms of the writers, together with portraits and sketches. The committee appointed to report the selection of an appropriate flower for Louisiana and also a national flower have unanimously agreed in favor of the golden rod for the national flower and the bay blossom as the State flower. Space will be applied for from Louisiana in the literary department of the exposition sufficient to accommodate 100 volumes of large size. The city of New Iberia has donated \$500 to secure a proper Acadian exhibit, a feature of which will be a fac-simile of the cottage home of the Acadian women who have loomed, spun and woven the Attakapas cloth for the last 100 years with no change or innovations.

TEXAS.

It looks now as though it were an assured fact that Texas will have a building at Chicago. At the meeting of the board of directors of the Women's World's Fair Association, held in Austin on September 3, the plans prepared by J. Reilly Gordon

were approved, and Mr. Gordon started at once for Chicago, authorized to let contract for the speedy erection of the building on the ground already prepared for it. The building is estimated to cost \$25,000, of which half has been secured. Space has been applied for at the exposition for a miniature model of Galveston, showing its advantages and facilities as a shipping point and port of entry, its docks, parks, public buildings, etc.

Houses Wanted in Norfolk.

NORFOLK, VA., September 20.

Norfolk is now enjoying a regular "house famine." At the beginning of the year we suggested in a letter to the MANUFACTURERS' RECORD that we should build at least 1,500 new houses on this harbor during the year 1892. About eight months have passed and 1,000 houses have been built.

Notwithstanding this increase there is a positive lack of houses. Every rental agency in the city is short of houses. One firm, having 1,600 houses in its hands, reports every one rented and the demand good for several hundred more; another firm reports "not a house on hand—could rent fifty to-day if we had them," and other firms report the same. I have been fully a week looking for a house for a friend and just succeeded yesterday in finding one.

This shows the removal to this city of fully 1,200 to 1,500 families during the past year. It shows a steady and permanent growth.

These families have been attracted here by the growth of Norfolk. The most rapid and noticeable growth has been visible in and around the deep water terminals of the different lines of rail terminating on this harbor.

There has been an increase in work at the navy yard, also an increase in the number of hands in the lumber mills, also an increase in the employees in the cotton mills. Then, too, there has been a slow and steady development along several manufacturing lines. These combined have attracted families enough to Norfolk to take up all the empty buildings, also to fill up the 1,000 or more new ones erected since January 1, 1892. There is no apparent reason to expect or fear a relapse, as the growth is steady, quiet and easy, not stimulated in any manner at all, in fact quite unnoticed by the majority of our people.

A. JEFFERS.

Basket-Making at Bridgeport, Ala.

BRIDGEPORT, ALA., September 13.

The most important industry secured for Bridgeport in the present year is the basket factory of N. Dietzen & Bro., whose buildings, six in number, are just being completed. These buildings include a main factory, dry-kiln, office, warehouse, dry shed and five-room dwelling. The firm manufactures baskets, crates, fruit packages of all kinds, veneer boxes, etc., using chiefly poplar lumber. One of the great advantages and chief sources of profit in this business is the fact that all the lumber in a log can be used, the only part thrown away being the bark. Much that is wasted by a saw mill and becomes dead loss is made valuable in this mill.

The location of the plant is excellent, being on the Tennessee river at the terminus of a switch of the Nashville, Chattanooga & St. Louis Railroad. The river bank is so high at this point that the factory will be several feet above the highest water ever known. All the raw material will be brought by way of the river, and the cost of transportation therefore very small. The manufactured goods will be placed on board the cars at the very door of the factory, and by a haul of three-quarters of a mile will be landed at the Bridgeport freight depot, from whence unexcelled transportation facilities are afforded to all parts of the country. The work now going

forward at the plant is the construction of the logway to the river, by means of which the material will be hauled directly into the main factory, where it will be made up.

When active operations are commenced, which will be about November 1, the Messrs. Dietzen will employ in the neighborhood of 200 hands, 75 per cent. of whom will be skilled mechanics earning first-class wages.

When the move from Chattanooga to Bridgeport was first decided upon it was the intention of the proprietors of the plant to bring their old machinery from that city when the buildings should be completed, but so favorably have they become impressed with their new location that this idea was long ago abandoned, and they have decided to equip their plant throughout with new machinery of the latest and most approved pattern.

The gentlemen at the head of the enterprise have demonstrated by their management of the Chattanooga plant for the past five years their ability in this line of business. When that concern came into their hands it was in an almost bankrupt condition and their means were extremely limited, but they have not only succeeded in placing it upon a solid footing, but have won for themselves snug fortunes, the reward of their ability and close attention to business.

Altogether the Bridgeport basket works is one of the largest and most complete plants of its kind in the South, and that it will be a success goes without saying.

Metal "Spanish" Tiles.

There are few articles in the line of roofing to-day attracting more attention amongst architects, builders and roofers than the metal "Spanish" tile, manufactured under special patent by Merchant & Co., of Philadelphia, which tiles are being made of copper, steel or tin (guaranteed roofing plates), the latter being painted in imitation of the red clay or terra-cotta tiles. While this metal tile is comparatively a new feature in roofing and unknown in the annals of the history of roofing previous to its being introduced and established by the firm of Merchant & Co., the success thus far, as reported by this firm, is phenomenal.

The principal object of the manufacturers of these tiles, aside from the ornamental feature, is to encourage the use of a more substantial and durable material for roofing, viz., copper, which, while costing considerably more than ordinary roofs of to-day, has lasting qualities so far superior that property owners have the assurance that a second roof for the one building will never be required, and hence the first cost is the only one, the roof becoming handsomer with age. Besides this there is a value in copper which should be taken into consideration when comparing the relative costs. If the building becomes damaged by fire, etc., or should the roof be taken off at any time, the material itself will bring probably 50 per cent. of its original cost as old metal. This cannot be said of any other roofing materials. Hence, the first cost of copper should not be considered on an equal basis with other materials. Copper is indestructible, all others becoming valueless when subjected to fires, etc.

Terra-cotta tiles present several objectionable features. They are too burdensome; the enormous weight makes them impracticable for roofing the average building, no matter what the superstructure may be composed of, as it will not admit of the strain that necessarily must result from such weight. Clay tiles cannot possibly be made water tight, even by the use of cement, as the action of the elements must sooner or later have a telling effect. They are broken by their own weight, to say nothing of the extreme changes in the temperature, and finally crumble away.

Copper is non-corrosive, and the life of a

copper roof, where proper provision is made for contraction and expansion of the metal, such as is made in Merchant & Co.'s "Spanish" tile, is indefinite. In other words, it will outlive the building itself. In short, the object is a high-class ornamental tile made of the most substantial and durable material known to the trade.

The Merchant & Co.'s metal "Spanish" tile has been specified and used by some of the recognized leading architects in the United States, both for private and public buildings, prominent among which might be mentioned the new city hall in Tacoma, Wash., and the Chamber of Commerce building in Portland, Ore. A handsome church spire in Detroit, Mich., is adorned with these copper tiles, and a large tower on a prominent building in Fall River, Mass., is covered with the same material, which stands to-day as a shining light glistening over the inhabitants of one of the most important manufacturing cities in the East. Many other buildings might be mentioned which have been adorned with these beautiful tiles. Tin and steel (painted) are being used largely. Two of the World's Fair buildings, viz., Minnesota and Colorado, are now covered with steel. They being only temporarily built, the cheapest material was selected. The general appearance of the tiles, however, is fully equal to anything yet produced in metal, outside of the copper, in ornamentation, and a positive and absolute tight roof is assured.

The patents containing broadest claims having recently been allowed to this tile, the manufacturers are determined to establish this system of roofing, and a good season's business for next year is apparent.

American Institute of Mining Engineers.

The sixty-third meeting of the institute will take place at Reading, Pa. Headquarters will be at the Neversink Mountain Hotel. Jerome L. Boyer, of Reading, is chairman of the local committee, and all letters concerning the local arrangements should be addressed to him. Application for reserved rooms should be made direct to Charles A. Stone, manager of the hotel. Rates for members and guests attending this meeting will be \$3 per day.

The programme will include visits to the surrounding points of interest at Reading, Pottstown, Birdsboro and an excursion into the Schuylkill anthracite coal fields. The meeting promises to be one of unusual interest, both from the discussions and papers and the region in which it will be held.

Southern Iron Notes.

SEVENTY puddlers employed at the Old Dominion Iron and Nail Works on Belle Isle have struck for an increase of wages. The company and puddlers a few years ago agreed to the Harrisburg (Pa.) standard of prices, \$3.50 per ton for puddling. Both sides have lived up to this agreement until the present. The puddlers now demand \$4 per ton, which the company refuse. The works will continue in operation with but little inconvenience.

THE date of sale of the Fort Payne (Ala.) Furnace Co.'s plant has been postponed to October 1st.

THE board of directors of the Salem (Va.) Furnace Co. held a meeting on the 16th inst. and decided to keep the furnace in blast for the present. The company intends to abandon working the Batt mines, and in future purchase its ores.

THE Tecumseh (Ala.) Iron Co. has completed its new ore washer and put it in operation. It was built at a cost of \$25,000, and is to wash 200 tons daily.

ENOCH PHILLIPS, of Pulaski, Va., has commenced the development of iron-ore deposits near Carter's Furnace, Tenn. The ore is said to be of very fine quality.

## PHOSPHATES.

### Hydraulic Mining of Phosphate Rock.

FERNANDINA, FLA., September 12.

The Black River Phosphate Co. has recently taken steps in the right direction towards reducing the cost of mining and preparing phosphate rock for market. I have seen at some of the hard rock mines the product and overburden handled no less than four times—first by the hand with the pick, then thrown to earthen bench half way to surface, again thrown from bench to bank of mine, and then lifted for the third time to carts and taken either to the rock pile or the dump. All this is fatal to profitable mining. From the nature of the formation there must be at least one manual handling of hard rock, the compensation being higher percentages. The Black River Co., however, demonstrates the possibilities of the machinery in the system used in pebble mining doing the work by hydraulic mining. The rock is first cut from its bed by a large hydraulic pump having a pair of 14-inch cylinders. The pebble and water are then raised from the bottom of the pit by means of a large Heald & Sisco centrifugal pump and forced through 450 feet of 10-inch pipe and emptied into a wooden sluice-box 600 feet in length, where it reaches the creek and is loaded to the lighters. The lift is 46.7 feet to where the pebble is deposited in the sluice-box. No touch of hand is upon the rock from the time it is disturbed from its primitive bed until it is deposited upon the barges. The rock is then floated down stream four miles to the company's factory or mill. Here each further mechanical aid is invoked as is possible. The system adopted by this company is said to reduce mining expenses 50 per cent. The product of this company is low grade, ranging quite below low-grade South Carolina rock, so that to be able to successfully compete mechanical devices must be brought into use. The above gives an idea how well the obstacles confronting the company on this line have been overcome. For future operations in all grades of the product it is a question of intelligent equipment for winning success.

J. H. JONES.

### Phosphate Exports from Fernandina.

FERNANDINA, FLA., September 12.

The record of phosphate exports for the past sixty days from the principal shipping point for hard rock, Fernandina, holds up, and increasing demands and facilities of production will steadily augment shipments in future.

This statement must, however, be qualified, and a possible falling off in the near future for a limited period may reasonably be looked for on account of complications which will arise from quarantine regulations. These regulations, on account of the prevalence of cholera in the ports of Europe which are large consumers of American phosphates, may, for a brief season, interfere with the flow of business, but the cessation must of necessity be brief. Among the ports which are valued and constant patrons of the Florida product are Hamburg, Harburg, Rotterdam, Stettin, Amsterdam and other cities in the infected portion of Europe. But were all of them cut off there would still, in the increasing list of consumers, remain enough points to sustain a constant market. The trade is now a fact from Fernandina, and the recurring names of the vessels doing the carrying from this port in the official lists of clearances show that they at least are finding a continuance in the business profitable. Besides the tramps which have been plying from Fernandina to the old country with a regularity which would almost deprive them of their characteristic name and put them on the "regular" list, new names appear with each month's re-

port and new ports for deliveries of rock are constantly being added to the list. The newest, perhaps, and a rather unexpected one, is the Barbadoes, West Indies. The Barbadoes islands are more densely populated than any other portion of the globe, excepting municipalities, and the soil is annually taxed to its utmost to meet the requirements of the food supply. To compass these results Florida rock seems to be coming to the rescue, and the story is told by a 600-ton shipment which left port on the 27th of August, cleared for the West Indies.

During the past sixty days several steamers have been loaded and cleared from the port of Brunswick, Ga. The rock which finds outlet here comes from the Fort White district, while the rock from the High Springs mines, just ten miles away, seems quite invariably to seek export at Fernandina.

For July the shipments from Fernandina aggregated 10,000 tons, for August 15,000 tons, prospective shipments for September 14,000 tons and for October a little less. Three cargoes of pebble went forward from this port during July and August. The elevator continues to do good work, and facilities for handling a large business are excellent. There may be some delay after the cotton crop gets to moving freely in getting vessels for phosphates, but the rush for orders to be filled will be over after September and October, and manufacturers can then wait awhile before replenishing stocks.

#### SHIPMENTS OF PHOSPHATE FROM FERNANDINA.

Date	Vessel	Tons	Destination.
July			
11...	Str. Scottish Prince	1,034	Hamburg, Ger.
20...	Str. Geiseric	1,904	Harburg, Ger.
26...	Str. Everest	1,995	Hull, Eng.
25...	Str. Rio Tinto	2,304	Harburg, Ger.
30...	Str. Elmville	2,401	Garston, Eng.
		9,638	
Aug.			
5...	Str. Concord	2,220	Hamburg, Ger.
6...	Bk. Concordia	766	Rotterdam, Hol.
10...	Bk. E. Dingle	429	Wales.
18...	Sch. C. C. Dame	815	Baltimore, Md.
22...	Str. Kennett	2,255	Stettin, Ger.
23...	Str. Milo	2,280	Gottenberg and 18 Kholm, Swed.
25...	Str. Rotheray	2,510	Hamburg, Ger.
25...	Bk. Glen Huntley	746	Cork, Ire.
25...	Str. Flamboro	2,301	Hull & Aberdeen.
27...	Bg. Onalaska	590	Barbadoes, W. I.
		14,872	

There cleared during the first week in September the British steamers Resolven, 2,000 tons, for Stettin; Ruabon, 1,750 tons, for Garston, Eng., and the Bedlington, 1,600 tons, for Lynn, Eng.

These shipments came from the Eagle Phosphate Co., Pebble Phosphate Co., Dunnellon Phosphate Co., Illinois Phosphate Co., Empire State Phosphate Co., Early Bird, Florida, Albion, Mineral & Mining Co. and the Campagne des Phosphates de France, the Dunnellon leading the record with an output of about 7,000 tons.

J. H. JONES.

### South Carolina River Phosphates.

A correspondent in Beaufort, S. C., writes us as follows: "In about the same ratio that Charleston represents the great bulk of the production of land phosphate rock of South Carolina, so do the river miners of this district govern and control, to a large extent, that branch of the industry in the State, this locality always having been recognized as the headquarters of producers of river rock. There are now six companies engaged in dredging phosphate rock in this vicinity, some of which represent a large amount of capital invested, with extensive plants and every modern appliance for raising rock at a minimum cost of production. For the past four months the Coosaw river has been opened to all companies engaged in the business, in consequence of which larger quantities of rock have since been mined monthly than ever before in the history of the trade, and, taken from that standpoint,

miners of river phosphate generally have not at any time since the development of that interest in Florida, been in a better position to meet the growing competition from that quarter than now. During the past three months large shipments of river rock have been made abroad, also considerable coastwise; the present demand is steady, and taken altogether the phosphate market indicates a more cheerful aspect for the coming year than for some time past, with the probabilities pointing to an advance rather than a long continuance of the present ruling prices of phosphate rock.

### Phosphate and Fertilizer Notes.

MR. H. S. KEDNEY, of Winter Park, Fla., who is vice-president and general manager of the Anthony Phosphate Co., located near Anthony, and local director of the Central Florida Co., whose works are near the same place, has been instrumental in organizing recently another company, called the Peninsular Phosphate Co., to operate near Albion. The company is made up of New York capitalists, and Mr. Kedney is its manager. The plant of this company will be the largest washing plant in the State, and will include a large steel log washer. The company has 240 acres of land, and is capitalized at \$100,000. There are now seven phosphate companies located near Albion.

SEVEN of the Anthony companies are mining, and the others are preparing as rapidly as possible to begin operations. The Deacon company ground several tons of its highest grade rock for acidulation by Mr. Kedney, who will ship the superphosphate thus made to his farm in Virginia to be used as a fertilizer for wheat. This experiment will be an important as well as an interesting one, as it will test the suitability of the material for the manufacture of artificial fertilizers, and also the fertilizing value of the high-grade product prepared.

THE royalties collected from phosphate producers by the State of South Carolina for the month of August are as follows: F. W. Wagener & Co. \$198.48, Coosaw Mining Co. \$5,916.85, Oak Point Mining Co. \$1,166.49, Beaufort Phosphate Co. \$10,203.90, Farmers' Mining Co. \$8,806.78, Carolina Mining Co. \$6,752.50 and Sea Island Chemical Co. \$6,899.09. As the royalty is one dollar per ton, the total output for August was 39,994 tons.

D. H. YANCEY has assumed the management of Bailey's phosphate mines at Fort White, Fla.

THE Pharr Phosphate Co. at Bartow, Fla., renewed mining operations last week.

### Phosphate Markets.

OFFICE MANUFACTURERS' RECORD,  
BALTIMORE, SEPTEMBER 21.

A quiet tone pervades the local market, and the trade of the past week in phosphate rock has been very light. There is a moderate offering, and considerable bidding has been indulged in, but no actual business has been closed. Receipts are light, and during the week the arrivals of rock have been all from Charleston, S. C. The schooner Sarah D. Fell brought 625 tons, Emma C. Middleton 675 tons, both direct, and the H. & J. Blendeman 775 tons for through shipment to Cleveland, Ohio. Advances from points of production are more cheerful, and hopes of a more active season than the past are entertained among operators. The market closes quiet, with values steady, as follows: Ashley River \$4.75 and Charleston \$5.00. River rock 58 per cent. is steady at \$4.50 f. o. b. Florida rock shows no change in value, and river pebble is steady at \$4.00 to \$4.25 f. o. b. for Charlotte Harbor and Tampa 60 per cent. product, and \$3.50 to \$4.00 for 50 to 55 per cent. product. Land pebble closes at \$4.50 to \$5.00 f. o. b. Tampa 68 to 72 per cent., the latter being equal to 10 cents

per unit delivered at New York and Baltimore, at which last sales were made. Florida boulder 75 to 80 per cent. is quiet at \$8.50 per ton f. o. b. Fernandina. We quote as follows:

Phosphate rock f. o. b. Charleston	\$4.7500
" " " " " " " "	4.0000
" " " " " " " "	6.0000
" (ground)	8.5000

CHARLESTON, S. C., September 20.

The general demand during the week has been moderate and there is very little to report of a startling character in the phosphate trade. The shipments during the week have been principally to Baltimore, Richmond, Weymouth, Mass., and Wilmington, Del. The advices from Europe in regard to phosphate are still of an encouraging character, and from the numerous improvements in progress among local operators, the probability is that the next year will be a more remunerative one than last. Values continue nominal in character, and crude rock f. o. b. is quoted \$4.00 to \$4.25, and hot-air dried, \$5.00 to \$5.25. There is very little inquiry for ground rock, and the price is nominal at \$7.00 per ton. Coastwise freights are still irregular, and to Baltimore the sail rates are \$1.80; to Richmond, \$1.90, and Ashley River to New York, \$2.25. The comparative exports of crude phosphate rock and ground from this port from September 1, 1891, to September 16, 1892, and for the same time in 1890-91, are as follows:

	1891-92.		1890-91.	
	Crude.	Ground.	Crude.	Ground.
Baltimore	2,855	3,500	.....	.....
Philadelphia	.....	800	.....	.....
Boston	.....	.....	.....	.....
Elizabethport	.....	.....	.....	.....
Wilmington, Del.	530	.....	717	.....
Barren Is., N. Y.	.....	.....	.....	.....
New York	209	720	.....	.....
Manila creek	.....	.....	.....	.....
Weymouth	805	790	.....	.....
Richmond	1,130	.....	.....	.....
Seaford, Del.	.....	.....	.....	.....
Newtown, N. J.	.....	.....	.....	.....
Wilmington, N. C.	.....	.....	.....	.....
Wald Point	.....	.....	.....	.....
Orient, I. L.	.....	.....	.....	.....
Other ports	.....	.....	.....	.....
Total exports	5,460	200	5,790	717
Grand totals	5,460	200	5,790	717

### FERTILIZERS.

The following quotations represent the prices current on the 22d instant: Acid phosphate, \$12.00 to \$12.50; ammoniated fertilizer, 1 per cent., \$17.50 to \$18.50; 2 per cent., \$18.00 to \$19.00; and 2½ per cent., \$18.50 to \$19.50; nitrate of soda (direct), for 100 pounds, \$2.50; ash element, \$12.00 to \$12.50; brimstone (to arrive), \$24.00, and kainit, \$12.00 to \$12.50 per ton.

FERNANDINA, September 20.

The general tone of the phosphate market is a little more cheerful, and so far during this month there has been quite a stir at times, while shipments are likely to increase. Our fine system of docks, elevators and other appliances for handling phosphate gives us many advantages over other ports, while the harbor improvements which have been in progress for some time past add also to the trade of the port. There are many improvements going on, and while some plants have been idle for the past three months, they are again about to resume under more favorable circumstances. A feature in the trade which shows a confidence in the future is the many improvements and additions being made to the different plants throughout this section. The Dunnellon Phosphate Co., Empire State, Hamburg and French companies, which are amongst the largest shippers, are all actively engaged, and have their plants in perfect condition to meet the requirements of the coming season. Some of the companies are running their steam washers and dryers day and night at the river mines, and the whole situation at this date is of a more encouraging character than for some time past.



## RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department, on pages 159 and 160.]

## The Nashville, Chattanooga &amp; St. Louis.

The report of J. W. Thomas, president of the Nashville, Chattanooga & St. Louis Railway Co., for the year ending June 30, 1892, submitted at the recent stockholders' meeting, makes the following exhibit: Length of road, 810 miles, including the Western & Atlantic, which is leased from the State of Georgia, and is 137.38 miles long. Bonded debt \$14,154,000, in addition to which \$50,000 of first consolidated mortgage 5 per cent. bonds have been issued to replace the same amount of 6 per cent. bonds redeemed.

Of the \$1,300,000 first consolidated bonds issued \$1,000,000 have been sold, and the remainder, \$300,000, are held in the treasury; \$750,000 of these bonds were used for the purchase and construction of the Tennessee & Coosa Railroad from Gadsden to Guntersville, Ala., 37½ miles.

The Company also owns \$1,057,000 Louisville & Nashville unified 4 per cent. bonds, the proceeds of which, when sold, will be used in discharging the floating debt.

The gross earnings for the year were \$5,353,288.06, the operating expenses were \$3,324,279.91, net earnings \$2,029,008.15; deducting charges against income, \$4,488,639.28, and dividends paid of \$500,000, a balance of \$40,368.87 remains. When to this is added the balance from last report, amounts from sale of capital stock and bonds, the total becomes \$2,741,088.13. After accounting for a number of large sums expended for various purposes a surplus of \$13,874.55 is left. A comparison of the operations of the Nashville, Chattanooga & St. Louis Railway, not including the Western & Atlantic, evidences a decrease of \$150,336.30 in gross earnings, a decrease of \$84,281.61 in operating expenses and a decrease of \$65,259.08 in surplus, which is \$496,996.25. During the year the equipment was largely added to, 27.34 miles of steel rails laid, a 362 foot iron bridge with draw built over the Tennessee river at Bridgeport, Ala., a number of new depot and other buildings erected, a fourteen mile extension from Huntsville, Ala., to the Tennessee river commenced, and the Tennessee & Coosa completed. At a meeting of the directors of the company it was decided to purchase the Centreville branch, running from Dickson to Lewis, Tenn., 46 miles, from the Southern Iron Co. for \$125,000. The Southern Iron Co. agrees in consideration of the purchase to build two new blast furnaces. The old officers of the company were re-elected as follows: President, J. W. Thomas; secretary and treasurer, J. H. Ambrose; chief engineer, R. C. Morris; comptroller, J. D. Manly.

## A New Railroad for Galveston.

There is a railroad being built in Texas from Virginia Point to North Galveston by the North Galveston, Houston & Kansas City Railroad Co. From North Galveston it is contemplated to build the road to the new town of La Porte, there connecting with a railroad that is under construction to Houston, and making another line from Houston to the Gulf of Mexico. The probable connections this line will have at Houston are being discussed. In this relation the interest that C. P. Huntington evinces in the progress of the work of obtaining deep water over the bar at Galveston is suggestive. It has been stated by one very near to Mr. Huntington that he had his eye on Galveston as a probable Gulf terminus for the Southern Pacific system for some years, and it is now rumored that he is endeavor-

ing to secure control of this new line between Houston and Galveston. The Missouri, Kansas & Texas is also mentioned as likely to enter Galveston over this road. It would seem that these two short lines are likely to constitute an important outlet to the Gulf.

## Holston Valley Railroad.

East Tennessee is to have another short line of railroad to aid in the development of its rich mineral and timber resources. This road will be built either from Bluff City or Bristol through Sullivan county, opening up extensive mineral and timber properties adjacent to the Holston river and mountains, principally owned by the Willey Boom & Lumber Co., of Bluff City. The road also crosses quite an agricultural country, and is designed to accommodate passenger travel as well as mineral and timber traffic. The Holston Valley Railroad Co., which will build the line, is composed of the same persons as the Willey Boom & Lumber Co., but is a separate organization. The line will be built from private funds entirely, and the company will not have to rely on floating bonds to obtain financial assistance to complete its undertaking. It is expected to have the road built and in running order within the next eighteen months.

## Empire &amp; Dublin Reorganization.

Claude Estes, who purchased the Empire & Dublin Railroad at public auction last week, acted for the bondholders of the road. The company's bonds and stocks to the amount of \$440,000 outstanding and the property was sold for \$50,000. The new owners will reorganize the company and complete the road to Dublin, Ga.; also equip the 13½ miles graded from Hawkinsville to Grovania. Just at present no further extension is decided upon, but there is a probability of the road being built to Fort Valley, Ga., there connecting with the Atlanta & Florida and forming the shortest line by several miles between Atlanta and Savannah. The property will be thoroughly overhauled and put in a first-class condition.

## Railroad Notes.

THE Cleveland, Lorain & Wheeling Railway, which heretofore had its terminus at Bridgeport, Ohio, opposite Wheeling, has made arrangements with the Wheeling Bridge & Terminal Co. by which its trains will enter Wheeling.

JAMES T. WRIGHT, president of the Macon, Dublin & Savannah Railroad, states that the force now engaged on the Savannah extension of that road will be kept steadily employed and arrangements will be completed before next spring for placing on the line a greatly augmented force, with 1,000 teams, with the intention of having trains running into Savannah within one year at the furthest.

THE annual report of the Annapolis, Washington & Baltimore Railroad Co. for the year ending June 30 shows gross earnings of \$67,719.52, and expenses of \$42,822.12. The surplus over all payments was \$3,152.69.

THE story that the Louisville & Nashville was after the South Carolina Railway for an Atlantic terminus is revived, and the statement is advanced that the second mortgage bondholders are evidently trying to sell the property to the Louisville & Nashville.

ON October 1 the Ohio River Railroad Co., of West Virginia, proposes to open its new line from Gayandotte to Huntington. This will give the Ohio River road an independent entrance into Huntington, it having been necessary heretofore to take all trains in over the line of the Chesapeake & Ohio. Work is being pushed on the new station at Huntington in the hope of having it completed by the day of the opening.

The station will be the finest on the line of the road and cost about \$20,000. A new freight depot is being built near the passenger station.

THE Huntington & Big Sandy Railroad, extending from Huntington, W. Va., to Kenova, in the same State, on the Big Sandy river, has been completed, and an operating company has been formed to conduct the road. The stockholders met at the office of the president of the Ohio River Railroad Co. at Parkersburg, W. Va., last Wednesday and organized by electing the following board of directors: H. H. Moss, Parkersburg; Ralph Covert, Parkersburg; Z. T. Vinson, Huntington; J. S. Clark, Philadelphia; Harry and P. Camden, of Parkersburg. Z. T. Vinson was elected president, and Harry P. Camden, secretary. The company will at once assume charge of and put the road in operation. The road is twelve miles in length, and is valuable particularly on account of the connections it has.

THE Portsmouth Co. has under way a project which will give an entrance into Portsmouth, Va., to the Norfolk & Western and furnish track facilities to industries on the company's property. It is contemplated to build a belt line about five miles in length.

THE Fairmont Development Co., of Fairmont, W. Va., has closed negotiations with the Baltimore & Ohio Railroad for the operation of a belt line railroad which the development company will build around the town of Fairmont. The company will be ready to let the contract for building the line in a few weeks. The belt will reach a l the manufacturing establishments and coal mines lying in the immediate vicinity of the town.

PURSUANT to an agreement made last year with the State of Texas by the Missouri, Kansas & Texas Railroad Co., the East Line & Red River Railroad from Jefferson to Greenville, 121 miles, will at once be made standard gauge, and the whole line, including the thirty-one miles of standard-gauge road between Greenville and McKinney, will be turned over to a new company to be called the Sherman, Shreveport & Southern Railway Co.

THE Texas Western Narrow-Gauge Railroad, running from Houston to Sealey, a distance of fifty-three miles, may be secured by the Missouri, Kansas & Texas and be used by that company for the extension from Boggy Tank to Houston, filling in the gap between Boggy Tank and Sealey and widening the gauge of the Texas Western.

THE Charleston, Sumter & Northern Railroad Co. has completed its extension from Bennettsville, S. C., to Gibson, N. C., opening up quite an extended field for business. As soon as the branch is inspected by the State railroad commission traffic will begin.

THE Paris, Marshall & Sabine Pass Railway, which is completed from Marshall, Texas, to Montvale Springs, Texas, a distance of sixteen miles, will be sold at public auction at Marshall, Texas, on October 4. The sale is in pursuance of an order of the district court of Harrison county, Texas, in foreclosure proceedings by the Central Trust Co., of New York, trustee of the bonds. The bonds are \$156,000 of 30-year 6 per cent. The capital stock is \$150,000. This is the second time the property will be offered for sale, at the former offering there being no bidders. A minimum price of \$16,000 is fixed.

AT the annual meeting of the stockholders of the Roanoke & Southern Railroad, which is leased by the Norfolk & Western, the following officers were elected: President, F. H. Fries, of Winston, N. C.; first vice-president, H. S. Trout, of Roanoke; second vice-president, John Gill, of Baltimore; third vice-president, J. H.

Spencer, of Martinsville, Va.; secretary, A. J. Hemphill, of Philadelphia; treasurer, R. D. Lankford, of Roanoke.

THE earnings and expenses of the Baltimore & Ohio for August were as follows: Lines east of Ohio river—Earnings \$1,818,562.34, a decrease of \$73,456.35; expenses \$1,163,956.23, an increase of \$53,448.55. Lines west of Ohio river—Earnings \$526,460.37, an increase of \$46,320.48; expenses \$416,535.95, an increase of \$19,708.36. The net earnings for the entire system were \$764,530.53, a decrease of \$100,202.

## A New Electrical Railroad in Baltimore.

Baltimore has recently taken a front position in the line of rapid transit cities, and the approach of the day when the rather ancient "hay burner" will be entirely superseded by quicker and more efficient motive power is already in sight in the City of Monuments. There are now in operation two cable lines and four electrical roads, and under rapid construction over 100 miles of additional cable and electrical lines. Until lately there was no electrical railroad that traversed the city, the lines built extending from the extremes of the city into the suburban country. The Central Railway has just been placed in operation by electricity and pierces the city from the extreme northwest to the extreme southeast. This line has been substantially built under the supervision of J. L. Blackwell, an engineer well qualified by previous experience for the work. It is twelve miles long and the tracks are of 80-pound steel girder rails on 7x8 inches oak ties. The power plant, which is in duplicate, consists of three 250 horse-power McIntosh & Seymour compound engines, three Campbell-Zell 250 horse-power water-tube boilers and three 250 horse-power Thomson-Houston generators. The cars are of the Stephenson make, and each carry two waterproof twenty-five horse-power Thomson-Houston motors.

## Electrical Notes.

THE Washington, Alexandria & Mount Vernon Electric Railway Co. has started its line to historic Mount Vernon. The opening was an occasion of much felicitation on the part of the citizens of Alexandria, Va.

THE Rock Creek Railway Co., of Washington, D. C., has opened for business 6¼ miles of new electrical road, traversing an attractive suburb of the nation's capital.

THE Mutual Light & Power Co., of Montgomery, Ala., has secured the contract for lighting that city for five years at \$19,890 per annum. The detailed cost is as follows: Fifty 2,000 candle-power lights, at \$9 per month, or \$108 per year of 365 nights, \$5,400; 150 1,200 candle-power lamps, at \$7.25 per month, or \$87 per year of 365 nights, \$13,050; 150 incandescent lamps, at eighty cents per lamp per month, or \$9.60 per year of 365 nights, \$1,440.

BIDS have been opened in Norfolk, Va., for dredging Norfolk harbor and its approaches. P. Sanford Ross, of Jersey City, N. J., bid 14¼ cents per cubic yard; Morris & Cummings Dredging Co., of New York city, 13 4-9 cents per cubic yard; C. P. E. Burgwyn, Richmond, Va., 15½ cents per cubic yard, and American Dredging Co., Philadelphia, Pa., 13 9-10 cents per cubic yard. The Morris & Cummings Co. will be recommended as the lowest bidder, and will probably receive the contract.

MR. HUGH R. GARDEN, New York, in renewing his subscription to the MANUFACTURERS' RECORD, says: "It is my opinion that no journal in this country is rendering such valuable service to the material interests of the South as the MANUFACTURERS' RECORD."





## TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department, on pages 158 and 159.]

## The Manufacture of Cotton Bagging.

The manufacture of cotton bagging in this country, although not one of its leading industries, is by no means an industry of small proportions. There are now some sixteen establishments engaged in its manufacture in the United States, employing a large number of hands. Nine of the sixteen mills are located in five Northern and Western States, and only seven in six Southern States, as will be seen from the following statement:

States.	Establishments.
New York.....	3
New Jersey.....	3
Massachusetts.....	1
Ohio.....	1
Indiana.....	1
Kentucky.....	1
Georgia.....	1
Alabama.....	1
Texas.....	2
Louisiana.....	1
South Carolina.....	1
Total.....	16

The Ohio establishment was recently destroyed by fire. In these establishments there are in all about 550 looms, and, as from eight to ten hands are employed for each loom, the number of persons given employment by this industry will amount to at least 5,000.

Prior to 1870 the supply of cotton bagging was largely obtained from abroad, but in that year the home manufacture began to make bagging on a large scale, and they have since, to a very great extent, supplied the domestic market, this being done, too, at a gradual reduction in price. In September, 1866, for instance, the price per yard of foreign cotton bagging at New York was thirty-six cents; in September, 1872, the price of domestic bagging was fourteen and a-half cents; five years later, in 1877, it had fallen to twelve and a-half cents, in 1882 to ten and one-eighth cents, in 1887 to seven and three-quarter cents, in 1891 to six and a-quarter cents and in February, 1892, to six and a-half cents. These prices are all for bagging of standard weight during September of each year. Lower prices were, however, reached during other months in the years quoted above, notably in 1891, when two-pound bagging sold for several months in the New York market for five and three-quarter cents per yard. Prices for the later months in the present year are very likely to be considerably higher than those ruling a year ago, as the India jute crop this year is very light and the shipments of jute in bales will probably not amount to one-half of those of last year.

The quantity of bagging necessary to cover the cotton crop of the United States alone is surprising, and the amount of money paid each year to the manufacturers of cotton bagging by the cotton planters of the South reaches an enormous figure. If, for instance, we take the number of bales of cotton produced in this country annually since 1880, allowing say twenty pounds of two-pound bagging, or ten yards, for covering each bale (which is probably a fair average), and then multiply the result by the average price per yard of two-pound bagging for each year since 1880, some idea of the magnitude of the cotton-bagging industry of this country, and of its importance to the South, may be obtained. In the following table the prices from 1880 to 1883, inclusive, have been obtained from an average of the lowest and highest prices at Boston for two-pound bagging, and the prices from 1884 to 1891, inclusive, have been obtained from the average monthly prices at Charleston, S. C.

It will be seen from this table that during the past thirteen years the cotton planters of the South have paid on an average almost \$6,000,000 annually for cotton bagging. It is quite probable that at least

one-half of this sum has been paid for bagging manufactured in establishments doing business in Northern and Western States, thus building up far-away towns and villages and adding to the prosperity of Northern and Western sections of the country, instead of encouraging the erection of additional mills in the South, which would give employment to many Southern workmen, and in this way directly benefit the great mass of Southern people.

Years.	Bales of cotton.	Yards bagging consumed annually.	Average price of bagging per yard.	Annual cost of bagging.
1880.....	5,737,397	57,373,970	10 1/2	\$6,035,267
1881.....	6,899,329	68,993,290	10 1-16	6,636,312
1882.....	5,435,843	54,358,430	9	4,892,259
1883.....	6,092,234	60,922,340	9 1/2	6,042,622
1884.....	5,714,052	57,140,520	10 7-12	6,047,372
1885.....	5,699,021	56,990,210	10 1-9	5,762,343
1886.....	6,550,215	65,502,150	7 1/2	5,158,294
1887.....	6,513,624	65,136,240	7 1/4	4,722,377
1888.....	7,017,707	70,177,070	10 1-5	7,158,061
1889.....	6,935,892	69,358,920	9 1/2	6,472,743
1890.....	7,335,720	73,357,200	7 1-4	5,890,872
1891.....	8,055,518	80,555,180	6 1-32	5,220,359
1892.....	9,935,379	99,353,790	6 1/4	5,947,021

Every pound of bagging used by Southern cotton planters should be manufactured in the South. The industry properly belongs to the Southern States, and the enterprising and progressive business men of that section should see that it is built up and encouraged in every legitimate way. The policy of the people of the South should be to establish within their borders every industry that will benefit them financially, particularly any industry that depends almost entirely upon the South for a market for its products.

The South should not make one-half but all of the cotton bagging which it must have to cover its cotton crop. If the mills now located within its borders are not capable of producing bagging in sufficient quantities to supply its requirements, new mills should be built. Far-off Massachusetts and New York should not be called upon for bagging by the planters of Mississippi, Georgia and Alabama, as has been done for many years. The \$3,000,000 which is annually sent out of the South for bagging manufactured elsewhere should be kept at home and expended for Southern-made bagging. And this bagging should be made, although unfortunately it is not, from jute grown on Southern plantations, decorticated in the South and spun in Southern mills.

## Southern Textile Notes.

THE Florence Mills, of Forest City, N. C., will likely add a new boiler to its plant and put in an electric-light plant. This concern was recently incorporated to operate the Forest City Cotton Mills, and is composed of R. R. Haynes, S. B. Tanner, S. O. Smith and others.

A SHIPMENT of two hundred bales of cotton was recently made from San Antonio, Texas, to Yokohama, Japan.

THE stockholders of the Crown Cotton Mills, of Dalton, Ga., held their annual meeting on the 14th inst., and as the result of the year's work a cash dividend of 15 per cent. was declared. The stockholders also decided to put in 1,000 additional spindles, which will increase the working capacity of the plant 20 per cent. The old officers were re-elected for the ensuing year as follows: T. R. Jones, president; George W. Hamilton, secretary and treasurer, and J. W. Brown, mill superintendent. The plant's output is cotton duck.

THE Athens (Tenn.) Woolen Mills, manufacturers of pure wool-filling doeskins and jeans, are building an addition to their plant and will put in electric lights. W. M. Nixon is president and manager of the plant.

THE Natchez (Miss.) Cotton Mills Co. has shut down its plant for general overhauling and repairs, and to put in a battery of four new boilers. The output of their mill is brown sheeting, shirtings and drills,

and it is officered as follows: R. F. Learned, president; A. C. Britton, treasurer, and David M. Dix, secretary. James Fitzpatrick is superintendent of the mill.

W. E. HOLT is making preparations to put additional steam power in the Wenonah Cotton Mills at Lexington, N. C., manufacturers of plaids, checks and stripes.

THE Standard Cotton Mills, of Rock Hill, S. C., manufacturers of gingham, has decided upon an increase of its capital stock from \$70,000 to \$100,000.

ANOTHER cotton factory will be built at Athens, Ga. Messrs. Erwin & Cobb propose erecting it, and have applied for charter for the Alpha Cotton Factory Co., with a capital stock of \$35,000, in shares of \$100 each.

THE Bedford City (Va.) Knitting Mill will be sold at public auction on September 27 by order of the trustees, Messrs. C. W. Wharton and M. P. Burks.

MESSRS. CHARLES T. HOLT and associates, who are erecting a cotton mill at Haw river, N. C., have about completed the necessary buildings and will install the machinery in a week or two.

THE stockholders of the Greensboro (N. C.) Cotton Mills at their annual meeting last week passed a resolution ordering the board of directors to sell the company's property and wind up its affairs.

THE Rock Hill (S. C.) Cotton Factory Co., which is at present engaged in manufacturing warps, running 8,000 spindles, intends to put in looms and make simply plain white goods, such as sheeting, shirting and drills. This concern has been very successful, being officered by A. E. Hutchison, president; David Hutchison, treasurer, and J. R. Nisler, mill superintendent.

THE McAden Mills, of McAdenville, N. C., manufacturers of warps, yarns, cottonades, plaids, ticking, etc., will build an addition to its weaving mill for use in finishing and packing goods. J. H. McAden is president of this concern, and Robert R. Ray, secretary and treasurer.

MR. J. A. JONES intends to establish a knitting mill for the manufacture of hosiery at Elizabethton, Tenn.

THE report of the Charlottesville (Va.) Woolen Mills having shut down, mentioned in our last issue, was incorrect. Although the plant has during several weeks past suffered from low water, it has not been necessary at any time to shut down. Mr. H. C. Mantaut, president of the company, sends us this information.

## Cotton Market.

NEW ORLEANS, LA., September 19.

Editor Manufacturers' Record:

In our last one feature of the situation to which we called attention was the large weed and a lack of fruitage at all in keeping with the average number of bolls per stalk; at least these were the reports coming to us and other houses here from reliable sources, and while we said it would require decidedly unfavorable crop conditions to advance the market, considering the large stocks everywhere, we inclined to the opinion that with a continued lateness of the crop increasing the danger from an early frost, a reaction in that event to a much higher level of prices was decidedly in order. On the 13th instant, the day following our previous letter, we took the position in our market report, which is published daily in twelve of the leading journals of the South, that a question of fruitage gave a much better basis to guess crop damage than the usual causes from which the planter generally drew his conclusions as to what percentage his crop had lost as compared to previous years or an average year. We have every day since the 13th instant, as the records show, advocated purchases on easy periods, and

we have been fortified in this opinion by a realization in Liverpool of conditions which, when they should be realized, we said would make us take the long side of the market, viz., a spot demand by consumers and not speculators. A transfer of cotton in a market from one party to another may in that way be a little more strongly held, but it does not go out of sight, whereas if the spinner or consumer takes it it becomes invisible stock, either in the shape of raw cotton or manufactured goods. Therefore we are still expressing our belief that cotton should further improve, and to buy on the soft markets seems likely to prove profitable. Sentiment also is growing in favor of cotton, and this is an element always in speculation, the extent of which, either in advancing or declining, may not represent the merits of cotton, but when backed, as in this instance, by probably a considerable shortage in the crop, it is a valuable ally in supporting if not advancing prices. Port receipts should have been much freer by this time than they are, and the improvement to-day here of fourteen points is no doubt partly attributable to a movement to-day of 27,000, against 54,000 last year. The "bears" contend that as soon as receipts become nearer a parity with those of last year it will create less demand from the other side, and with accumulating stocks in America at ports and in the interior, the effect will be depressing, momentarily anyhow. It is well to consider the present just now and take the chances of the larger movement later on, as the larger we may grow in the movement the greater is the comparison with last year. For the first sixty days of last season we now see that 31 per cent. of the crop came into sight. If we lose in September and October this year 650,000 bales in two months, the question will be asked, what does that indicate we will lose for the remaining ten months? This market is bullish, but neither Liverpool or New York is in sympathy with that feeling; at least the course of their respective markets would rather indicate a disbelief in an improvement. Our impression is that cotton is a buy on declines from advances so long as the improvement is not too extreme.

ATWOOD VIOLETT & CO.

## CLOSING PRICES OF FUTURES SEPTEMBER 21.

Months.	New Orleans.	New York.	Liverpool.
September.....	6.96	7.14	4.91
October.....	6.97	7.20	4.95
November.....	7.08	7.34	4.95
December.....	7.16	7.48	4.99
January.....	7.26	7.56	4.97
February.....	7.36	7.71	4.99
March.....	7.46	7.82	4.12
April.....	7.50	7.92	4.14
May.....	7.66	8.02	4.17
June.....	7.76	.....	.....
July.....	.....	.....	.....
August.....	.....	.....	.....
Tone of market.	Firm.	Quiet and Steady.	Quiet and Steady.

## CLOSING PRICES OF SPOT COTTON SEPTEMBER 21.

Grade.	New Orleans.	New York.	Liverpool.
Middling.....	7 1-16	7 5-16	4 1-16
Low middling...	6 1/2	6 1/2	4
Good ordinary...	6 1/4	6 3-16	3 7-16
Tone of market.	Firm.	Easy.	Firm.

THE Pocahontas Coal Co. has decided to employ a new set of hands to supply the place of the striking miners. The men were notified that they must go to work by September 5, but as none came in it was determined to secure help elsewhere. A number of applications for work have already been received, and it is thought little difficulty will be found in filling all vacancies.

THE first annual session of the Southwestern Wool Growers' Association is being held at Albuquerque, N. M. About 400 delegates from the Western States have attended.

## Manufacturers' Record.

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BALTIMORE, SEPTEMBER 23, 1892.

### Notice to Advertisers.

*The last forms containing advertisements are closed on Tuesday afternoon. New advertisements or changes should be received not later than Tuesday noon to ensure attention in the issue bearing date of the following Friday. Reading matter should be in our office on Wednesday, although late news can be received early Thursday morning.*

LAST week the first shipment of iron ore left Llano, Texas, for Birmingham, Ala. There were three carloads, aggregating about sixty tons. We are not advised as to whom the ore was shipped, but we presume, from the amount shipped, that it will be used for puddling furnace "fix." We believe this is the first practical test of the Llano ores, and now that rail communication has been established, we look for some active developments.

THE cost of constructing county roads by convict labor has been shown by the county commissioners of Floyd county, Ga. Ten years ago these gentlemen decided that it was expedient to use convicts in constructing and maintaining their roads, and since that time over fifty miles of good macadam road have been constructed at an average expense of \$1,000 per mile. The roads are twenty-four feet wide, with sixteen feet of macadam in the middle. They are all well graded, drained and substantially made.

It is pleasing to note an unusual degree of activity in the sugar market, particularly as it comes just as the crop in this country is reaching maturity. The exhaustion of the Cuban stock and a heavier demand upon the Hamburg market for supplies, which forced prices up there, combined with the disturbance of European business on account of cholera, have all tended to raise the price of raw stock and of the refined product. Many large refineries have their output sold far ahead and have re-

fused to take more orders. In the meantime all are working to their utmost capacity, and the remainder of last year's crop in Louisiana and elsewhere has been sold at good figures. This promises well for the coming crop, which will be in within the next two weeks. From all reports it will be a large one, and between good prices and the sugar bounty the season should be a prosperous one for the planters.

In Florida and all along the Gulf coast there are large quantities of fine moss in shreds from one to five feet or even more in length hanging from the trees. In some places this is gathered, buried underground for a month or so, then taken out, dried and passed through a crude gin to remove dirt and trash. In this form it is baled and sold, bringing between \$2.00 and \$3.00 per hundred pounds. If allowed to remain underground until the covering or bark of the moss rots away, requiring three or four months, the fibre remaining is black and fine. In this condition it sells for between \$5.00 and \$7.00 per hundred pounds. Large quantities of the shorter varieties are shipped away for use in packing. Some means of cleaning the bark from this moss without the long delay now required would both increase its value and extend its uses.

### American Woodworking Machinery in England.

We note with much interest the success with which American manufacturers of woodworking machinery are establishing their trade in the English markets. In this particular line, as in numerous other mechanical branches, our manufacturers lead the world, and gradually the merits of their machinery are being appreciated by the conservative English and Scotch woodworkers. Much of our American machinery is not adapted to English methods, and this fact, with the lower cost of building machinery in England, has operated against the introduction of our machines on the other side. American methods of woodworking have gradually impressed themselves upon our cousins across the water, and to-day many American tools can be seen in their mills and shops. It is rather unusual to see advertisements of American machinery in English trade and mechanical journals, but we notice that the London *Timber Trades Journal* numbers among its regular and prominent advertisers several enterprising American houses, among them the Egan Co., of Cincinnati, the Defiance Machine Works, of Defiance, O., and J. A. Fay & Co., of Cincinnati, all of whom have branch offices in England.

Mr. S. Levy-Lawson, who has been instrumental in introducing much American machinery in the Mexican and South American trade, has recently opened extensive show-rooms for American manufactures and machinery in London, and Rowley & Hermance, of Williamsport, Pa., have a large line of woodworking machinery on exhibition there. The *Timber Trades Journal* comments at considerable length upon this new departure, and has this to say of American woodworking machinery:

One of the most striking features of the machines by these makers is the total absence of gun metal and phosphor bronze for the bearings.

Long experience has shown our cousins that heavy first cost of machines, break-downs necessitating long stoppages of plant and continual charges by the engineering firms, might be entirely avoided by the use of Babbitt metal for the bearings, and by the use of this metal bearings of a durable and efficient character can be renewed in a very brief time by an ordinary mechanic. \* \* \* While some of the machines appear to be of lighter build than we have been accustomed to, we note that a perfect balance of revolving parts has been aimed at, each pulley and each cutter-block has its centre of gravity where it ought to be.

What is being done in the export of woodworking machinery to England is but an indication of what will come sooner or later in many other lines. It is characteristic of American machinery designers that they originate rather than copy ideas, departing boldly from long-established practice, and thus producing many radically new machines and methods. This has been particularly noticeable in woodworking appliances, and to this originality may be attributed the success that has come in the export trade in this line. In some other branches we are not yet up to the best English practice, particularly in textile machinery, much of which we still buy from English makers.

### Spreading Information About the South.

Capt. J. F. Merry, assistant general passenger agent of the Illinois Central Railroad, has prepared for general distribution an interesting pamphlet which bears the title, "Where to Locate New Factories." Of course the primary object of this pamphlet is to advertise the territory and towns along the line of the Illinois Central, but to our mind it has also another mission, which, though incidental, is of great importance. The pages of this advertising pamphlet will carry into the North, the East and the West specific and detailed facts about a very considerable strip of resourceful country stretching from Cairo to New Orleans, and including portions of Kentucky, Tennessee, Mississippi and Louisiana. It is definite information of this character that is desired by inquirers, and such a compendium as Captain Merry has prepared must prove a potent educational influence in the North; in fact, wherever it circulates.

These are the claims that Captain Merry presents for his section of the South:

1. The section of country referred to has apparently an unlimited amount of nearly every known variety of hard and soft wood timber at astonishingly low prices.
2. This timber is easily accessible and its quality is unsurpassed, and as a proof of this we have only to call attention to the fact that factories in Illinois, Michigan and Ohio are shipping this very timber long distances for manufacturing purposes.
3. This section of country is the very centre of the greatest cotton-producing district of the world, and will remain so for another century at least. The delta land between Memphis and Vicksburg is large enough, at a bale and a quarter per acre, which it is claimed it will yield, to yield the total crop of the United States.
4. The climatic conditions are favorable for manufacturing enterprises. The enormous expense of heating during the winter months is saved or reduced to a nominal amount.
5. The wages of unskilled labor are much less than in the North.
6. Fuel, both wood and coal, is from 50 to 70 per cent. cheaper than at many of our manufacturing centres in the North.
7. New railroads are being built, new towns are springing up, and every year witnesses a greater demand for every staple article manufactured.

These are strong claims, but they are well within the truth, and they are amply sustained by the detailed information which is presented. There is such a tendency to speak of the resources of

the South in general and sweeping terms that we gladly welcome the specific facts about definite localities which Captain Merry has given. He has devoted a brief chapter to each town of importance from Cairo to New Orleans, and the seeker after a factory site can learn at a glance what each locality possesses in the way of established industries and in opportunities for further industrial development. While the good results of this pamphlet will, of course, fall chiefly to the Illinois Central Railroad, in whose interest it has been prepared, we believe that its influence will be felt in the South beyond the narrow strip of territory to which it refers.

There is in this an example that many of our other Southern railroads might follow to their own profit. There is urgent need for educational work of this character—pamphlet literature that shall set forth in concise and careful form the resources of territory that is open for development. It is information of this character that is in greatest demand, and a little work of this character by the railroads would not only aid enormously in building up their business, but also render an immensely valuable service to the South as a whole by dispelling the clouds of misinformation and ignorant prejudice that obscure the Eastern, Northern and Western views of the South. We hope to see more of this work.

### Sheep in East Tennessee.

The high plateau land and rolling country of East Tennessee have frequently been referred to as most excellently suited for sheep raising. Those who have visited that section have noticed and spoken of this, and the people living there have expressed the same view. But no one appears to have the requisite energy to have taken the matter up in practical form.

This East Tennessee land can be either bought cheaply or a grazing right secured for a trifling sum. It is well wooded and well watered. The forests on top of the plateau are not thick nor full of underbrush. In places there are hundreds of acres which, except for some fallen trees, are as open as a park, and the ground is covered with shrubs and grasses. The water supply is pure and never fails. The winter season is short and not severe, while the spring and fall are long and the real summer short. Indeed, the climate is all that can be asked.

What does the sheep-raising industry need besides plenty of good grazing ground, water and an equable climate? Convenience to the Northern and Southern markets is assured by the railroads, and the only things lacking are the sheep-grower and his sheep.

The Merino is said to be particularly well adapted to this region, and some specimens of wool raised from them before the war were most beautiful, but it is probable that the Lincolnshire, Yorkshire, Southdown or other English and Scotch breeds would do well when acclimated. There is an immense acreage in East Tennessee that can readily be made to yield handsomely in wool and mutton. We should very much like to see a little well-directed energy and judiciously-expended money applied to experiments in this direction. The possibilities are great and the risks are small.



**A Use Wanted for Molasses.**

Wasting by-products is characteristically American. In Europe the secret of cheapness in cost of manufacturing is as much due to the utilization of all waste material as to low wages, while here not only do we throw away valuable products, but our manufacturers buy these same things from abroad and pay good prices for them. We recently printed an extract from the *Louisiana Planter* which discussed the possible value of molasses as a fuel in place of coal. Pittsburg coal costs in New Orleans about \$3.50 per ton, Alabama coal less; but even estimating the cost of coal delivered at sugar mills as \$5 per ton, it would be cheaper than molasses as fuel. If molasses contained, per unit of weight, the same heating power as coal, it would be the cheaper of the two; but estimating the theoretical heat units in each, the ratio is as four to one—that is, four tons of molasses would be required to produce the same amount of heat as one ton of coal, and in practical work the disparity between the two would be even greater. If 166 $\frac{2}{3}$  gallons of molasses weigh a net ton, then about 668 gallons would yield the same heating power as one ton of coal, and with the latter at even \$5 and the former worth only one cent per gallon, the difference in favor of coal is \$1.68, which in practice would be added to by the change necessary in existing plants to use this form of fuel, and also an enlargement of the boiler capacity owing to the fact that 668 gallons of molasses cannot be burned under ordinary circumstances in the same length of time as its equivalent in coal. As molasses is now worth nearly two cents a gallon and coal a little over \$4 per ton delivered on the plantation, the difference between the two is much more marked.

With the steady increase in manufacture of sugar, coupled with improved methods, the quantity of molasses made each year has increased, its grade has become lower and its value much less.

What to do with it or how to treat it so that it may continue a source of revenue to the producers is the problem. Its use as fuel is wasteful, but there are at least two other uses open—one, fermentation and distillation; the other, utilizing as a fertilizer. If the Columbia Distilling Co., on Long Island, N. Y., finds it profitable to ship molasses from the West Indies to its works and there make alcohol from it, such a course should be more profitable when carried on in the sugar district. This industry is not by any means a new one in the United States. In 1889 nearly 2,000,000 gallons of molasses were fermented and distilled, but in the West Indies it is carried on to an enormous extent, and a large portion of the product is sold here. It is generally understood that the product of distillation from fermented molasses is rum, but the highest quality of proof spirits and refined alcohol are better to make and have a larger market.

Another possible use for the lowest grade of molasses is as a fertilizer. Some years ago an experiment was tried by mixing molasses with lime and using it on the soil. We do not remember having seen any mention of the results, but in the suggestion lies a good field for investigation.

We hope some of our agricultural

scientists and sugar experts will between them work out some profitable utilization of the great quantity of low-grade molasses that is annually made in the Louisiana sugar-houses and prevent the waste of so much material that contains elements of value.

**GENERAL NOTES.****Brief Mention of Various Matters of Current Interest.**

It is reported that Professor Strachan, of Middleborough, Ky., has found a large and fine deposit of marble onyx on the line of the Knoxville, Cumberland Gap & Louisville Railroad.

ON October 1 the Independent Red River Packet Co. will send out its first steamboat, the *Dacotah*, to carry cotton from Red river points to New Orleans. The company has been organized recently, and will run four boats in all.

It is reported that E. H. Patterson, of Pineville, Ky., has secured Belgium and English backing to build a city in South-eastern Kentucky, presumably near Pineville. A railroad and numerous enterprises are to be built.

It is stated that an Austrian manufacturer has lately patented a cheap and simple method of making a tough and water-proof cardboard from wood pulp. The invention consists in the use of chrome alum, which is added to the pulp in the rag engine. The purpose of the invention is to use the cardboard so made in the manufacture of shoes, particularly the inner sole.

THE surveying party who will change the course of Yazoo river so as to give Vicksburg, Miss., a permanent harbor and running water is now being organized in that city by Capt. J. H. Willard, of the United States engineer corps.

FURLOW HOLT and associates, of Macon, Ga., expect to develop the water-power of the Ocmulgee river at a point some eight miles distant from that city. About 3,600 horse-power can be secured. Dynamos will be placed there and electricity supplied to the street cars, city lights and for furnishing power to manufacturing establishments in the city. These gentlemen own large tracts of timber land, which, with some clays, will be developed.

KANSAS grain growers have been examining the port of Velasco, Texas, with a view of shipping grain thence to Europe. It is estimated that the saving in freights over shipments via New York will be nearly twenty cents per bushel.

PASSAGE has been secured on the American brig *Mary Bartlette*, now loading cross-ties and bridge timbers at Mobile, Ala., for Carthage, for eight American mechanics, who go down to the latter place to work on a contract secured by J. P. Putnam, of West Pascagoula, to build wharves, warehouses and furnish and place the ties and bridge work for sixty miles of railroad for the Carthage Improvement Co.

It is reported that the Cumberland Oil Co., which has been drilling for oil on Franklin creek, Pickett county, Tenn., has struck gas recently. The company expects to continue work until oil is found.

A CALL has been issued for a meeting of the Turpentine Operators' Association to take place October 12 in Savannah, Ga. A large attendance is expected. The Florida association has elected sixteen delegates to attend the meeting.

THE success of the Chattanooga Steamboat Co. has, if reports be correct, induced

a St. Louis steamboat company to run a Tennessee river line between the two cities named.

FROM January 1 to date twenty-five new business houses and churches have been or are being erected in Roanoke, Va., representing an aggregate value of \$435,400. The churches, nine in number, represent \$70,400.

THE grain shipments from New Orleans for the year ended August 31 show a notable increase over the previous year. According to the figures furnished by the board of grain inspectors of that city there were shipped to foreign ports during the last commercial year 6,921,143 bushels of corn, 14,017,124 bushels of wheat and 661,942 bushels of rye, aggregating in all 21,600,141 bushels of grain, against 7,259,301 bushels during the previous year, a gain of 14,340,840 bushels. These shipments of grain went to all parts of Europe, although the north European parts received the great bulk of the total amount. Great Britain, France, Germany, Holland, Belgium, Denmark, Sweden and Norway all imported good amounts of grain from New Orleans, and other countries took smaller amounts. France was the principal importer, the port of Rouen taking a larger quantity than any other single port. Hamburg also imported largely, Germany coming next to France among the importing countries. The shipments to Great Britain were also large.

**A Traveling Man's Views of Rocky Mount, N. C.**

ROCKY MOUNT, N. C., September 21.

It is with pleasure that I accede to the request of Messrs. Arrington & Arrington, general agents of the Rocky Mount Improvement & Manufacturing Co., to write an article for publication setting forth my views of the present and future of the charming and hospitable town of Rocky Mount. For years past I have traveled over this State, Virginia and Alabama a great deal, and regret to say it was my misfortune to be in many of the new towns of Virginia and Alabama when booms were in the ascendancy, and one of the many unfortunates who invested in corner lots five and six miles from any town, and where they hunted rabbits by electric lights. Having read in many different papers of what a glowing future Rocky Mount had before it, and of the hospitable welcome it extended to all newcomers, I naturally expected to find on my arrival one of the old time boom towns, but I am pleased to say I was not met by half a dozen wild and ravenous real estate men and asked to look over their property, purchase and make millions thereby, but, on the contrary, I never saw one of the old time real estate vultures while in the busy little city. By accident I strolled into the office of the Rocky Mount Improvement & Manufacturing Co. and met their general agents. While chatting with them about this live, hustling town, they informed me they had just signed contracts for quite a number of nice dwellings to be built by and on the property of the above company, and said further that they felt confident that they could rent fully 500 new houses in the next three or four months if anyone would build them. At present there are no houses to be secured, as there is not a vacant house in the town of any kind, but the emergency will be met, for the people of Rocky Mount are not going to allow anyone to depart, and to this end new contracts are being made every day for residences and buildings of all kinds.

The population of the town is increasing daily, and in a short time the place will assume such proportions that the authorities will have to apply for a city charter. I have never seen any place more advantageously located for manufacturing enterprises of all kinds. There are hundreds of splendid sites for both large and

small plants immediately on the railroad. Freight rates are guaranteed to be as low to and from this point as any place in the South, and the facilities the great Atlantic Coast Line has for fast freight transportation are not equaled by any other road in the Southern States. Manufactories are what is needed, and liberal inducements will be offered in the shape of free sites, etc., to the right parties. I was informed by their agents that the Rocky Mount Improvement & Manufacturing Co. would have an auction sale early in November, and I would advise all who have a small or large amount to invest to be in Rocky Mount on the date the company will soon make known. They own a beautifully rolling piece of property in and adjacent to the town. The lots are all well proportioned and of good size, splendidly located for both business and resident sites.

There will be a tobacco exposition held here early in November, and several thousand dollars expended in premiums. This market is rapidly assuming large proportions, and I do not hesitate to prophesy that in a few more years it will be the largest leaf tobacco market in either of the Virginias or Carolinas. As a railroad point there is nothing in this part of the country that will equal it. It is but seldom that one sees such a busy set of men as are now at work on the immense classification yards and repair and construction shops of the Atlantic Coast Line system. It reminds one more of a beehive than anything else. A railroad man informed me that on the first of November this would be made the terminal of the northern and southern divisions of this great railroad system, and that all freight from the North and the South would be brought here for classification, and thereby give employment to an immense force of workmen.

I am so much pleased with the place that if I were to attempt to say all the good things in its favor that I would like to, I am sure I would tire the readers of your valuable journal, so will end by saying there is no retrograding, but lots of advancing in this busy hustling town.

DRUMMER.

**Proven by Experience.**

SYRACUSE, N. Y., September 7.

Dear Sir—We regard the *Baltimore MANUFACTURERS' RECORD* as one of the best advertising mediums we have on our list.

Our system of carefully tracing results shows us that the *MANUFACTURERS' RECORD* has been the means of bringing to us business in a very large number of cases, and particularly throughout the South. In both large and small places we have noticed its good effect.

The advertisement of our Florida heaters has appeared in your paper for the past seven or eight years, and we candidly say we have reason to feel glad that the *MANUFACTURERS' RECORD* was suggested to us as a medium.

Very truly yours,

PIERCE, BUTLER & PIERCE MFG. CO.

THOMAS E. CRONE,

Advertising Manager.

YELLOW PINE has been used for water pipe with great success, says the *Lumber Trade Journal*. A Western water company has been experimenting with pipes made from California redwood and yellow pine. It was proven that the wooden pipes had many advantages, one being that the cost was just about what the interest would have been had iron pipes been used, and that there was very little decay and no rust, while yellow pine presented advantages over redwood. There is apparently a field for yellow pine which can be worked and relieve the market of some of the surplus.

## MECHANICAL.

## Notes on Maching Shop Practice.

By Albert D. Pentz.

A MISTAKE made by all inventors is the supposition that when the device is perfected the principal part of the work is done. Such is not the case, however, by any means, for an invention reduced to practice has only enough work done on it to give a motive for the greater task of getting the means to work it, of perfecting the appliances to manufacture it and of persuading people to buy it. There never has been made an invention so great that its producer was at once hailed as a benefactor of the race or which attracted capital without effort and without sacrifice. To be truthful and direct, there is but one way in which an inventor can get the full benefits of his creations, and that way is to keep the hand of speculative capital off from it. The moment that capital begins to acquire a controlling interest in an invention the inventor begins to be crowded out unless he also is a capitalist. An inventor has to struggle; that is his fate. If he combines with capital it will insist on the control, and then if the thing is a success he will be obliged to struggle and after a while to go out. If he manfully takes hold of the thing himself, however, and works it for all it is worth, keeping expenses down and the production up, making the thing better to-day, cheaper to-morrow and selling a few more of them the next day, he will struggle up. In ninety-nine cases in a hundred that path alone leads to success for the inventor.

I AM one who believes that the South needs one million little industries started by residents, managed by residents and profited in only by residents, rather than one thousand giant enterprises founded by Northern men or foreigners, managed by non-residents, and the profits of which shall go out of the country. There is no more earnest advocate of enterprise and the association in one spot of masses of economic means than I. But to be true and healthy the enterprises must be native and not foreign, and the profits must go into circulation where they are earned. It is not Southern development where its resources go to enrich another section, and where its residents labor for the profit of owners who spend it far away, and whom, personally, they never see. Ireland is owned by absentees who remove every particle of wealth it produces. India is operated by the English, who have robbed it of incalculable wealth. Consider the present poverty of these two countries. The real cause of the revolutionary war was that the colonies insisted on manufacturing for themselves and their refusal to be manufactured for by the English. A prosperity in the South that impoverishes its people and enriches some other people, that transfers the ownership of its natural resources to aliens, cannot be acceptable to those who clearly see the outcome and seek the greatest good for that section. There is need in the whole land of a resumption of the old fashion of starting at the bottom, and a suppression of the new one of beginning at the top.

A MACHINIST entering a strange shop to begin to work understands perfectly well that the eyes of that little world are upon him. If he is young and foolish he will try to make the old hands in that place believe by his actions that the work there is not only perfectly familiar to him, but rather under his capabilities. He will go about with confidence depicted in his every act. He will not ask where the reamers are kept; he imagines that would be weakness; but he searches for them in such a manner as to give the impression that he is busy at something else—wastes

perhaps a half hour thus. Then he will start on the drill press to bore a hole in a particular job which for some good reason known to the old hands should be done revolving on the lathe face plate. Next he will make a template to gauge an ornamental shape, when a question would have produced a shape tool for it. He will continue this course until he has produced an impression that he is worth just about two dollars a day, when his workmanship is actually worth fifty cents more, but it will take him two years of hard work to get what he is worth in that shop. The experienced man, on the contrary, is an animated interrogation as far as the tools and usages of the shop go, but no farther. He will make it a pleasant thing for anybody to steer him right. The work will appear perfectly new to him and the small tools different from anything he has seen before. He will thus get lots of help and make friends. Then he will work as hard and as expertly as he knows how to. He will produce good work and get the best wages; for if a new man in a strange shop does good work and plenty of it, he will be rated well. Having once set a pace, a man has got to hold it; for if the first effort is only to get a rating, to fall back from that into mediocrity, it is probable that his stay will be short, and that the experience of that experienced man lacks one essential thing.

THERE are many factories in this country where they make special articles, and some of these shops are making money, while some others can scarcely make two ends meet. In looking into this question of why part of them succeed and others do not, some points of general interest have come up that may well be written about. Many of these factories are not machine shops as such are generally understood, though some of them are closely allied. One may be an electrical instrument shop, another a jewelry manufactory or any similar kind of concern. A successful factory may be situated in the same town with and do precisely the same work as one that can scarcely get along and pay its bills. In considering this subject we will suppose two shops and imagine the reception of the same inquiry in each of them. Johnson got the inquiry Monday morning, as did Jackson across the street, which was: "At what price can you furnish us with ten thousand (10,000) compression cocks. Please quote the best pattern you have to offer at a reasonable price; workmanship to be good; bright brass finish." Johnson opened this letter, with others, and laid it aside among those most important. Two hours later he came upon it again in its regular order. Then he took it in his hand and went into his factory and accosted his foreman: "Say, Tomson! How many kinds of compression cocks do we make now, eight?"

"Yes, sir; eight, counting all."

"Pick out a good sample of each and bring them to me. Put the shop numbers on them."

Then Johnson answered the letter of inquiry thus: "Yours of 17th we have, and gladly note your inquiry about compression cocks. We think you will find our goods and prices what you desire in every respect. Our Mr. Johnson will call at your office at ten o'clock to-morrow, 19th, show you samples and quote our prices."

Jackson's mail consisted of the letter of inquiry and the circular of a diamond dealer in New York. This last he looked through carefully before he opened his business letter. Then he read that.

"Good enough! Ten thousand! Try to get that. Dick! (to idle office boy) find Jimson and tell him to come here at once." Then he laid the letter down and picked up the circular again, swinging his body in his revolving arm chair all the while. "Jimson's gone out—went down the street," and the boy without further remark went

and looked out into the street through the glass panels of the door. "What right has Jimson to go out?" "Dunno—hev to ask him."

Jackson glared at the boy, who did not see it. Then he got up and went into his shop to see what he made in compression cocks. Not getting any knowledge after fifteen minutes he returned to his desk in very bad humor. Here he found Jimson looking over the diamond circular, while Dick was in possession of the letter. He snatched the letter from the boy, rudely elbowed him aside and sat down.

"Was looking for you, Jimson."

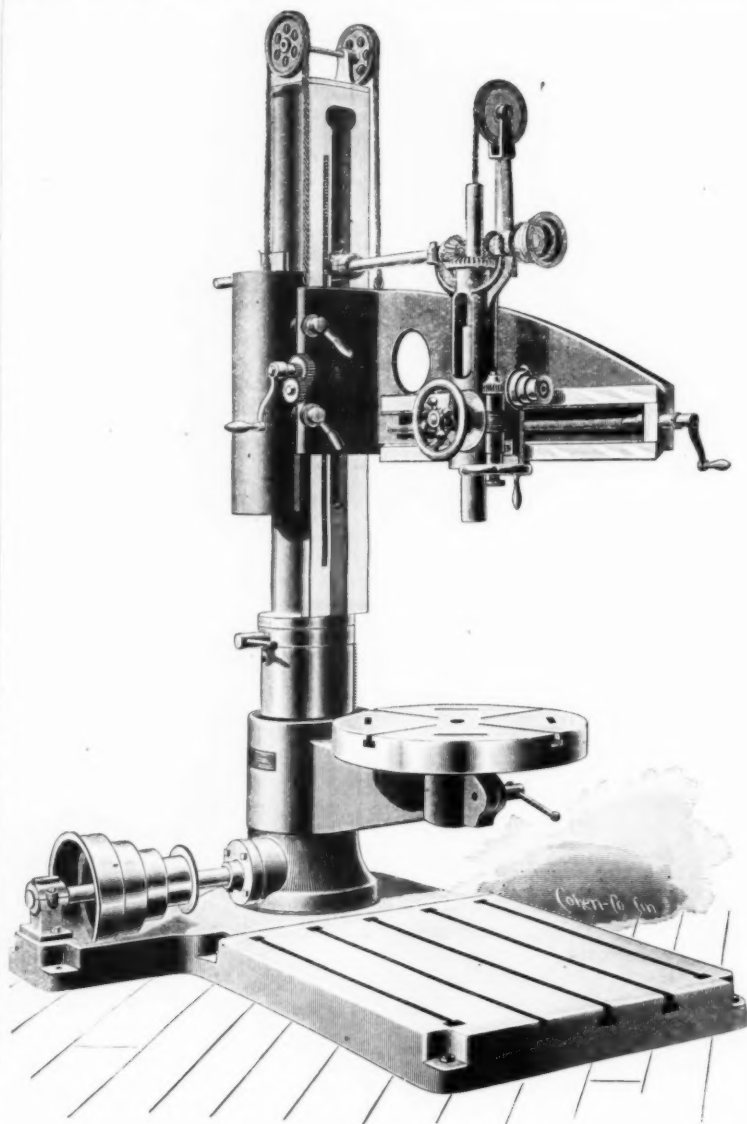
"So Dick said."

"How many kinds of compression cocks do I make?"

"We make the regular standard kind without a spring and with one."

## A New 80-Inch Radial Drill.

Dietz, Gang & Co., of Cincinnati, Ohio, have placed on the market the new radial drill shown in the accompanying illustration. This machine is a combined upright and radial drill and is provided with a number of recent improvements designed by this firm. The machine is made with hand or power feed as may be desired. It is driven from the cone pulleys shown in the cut by means of bevel gears running one to three, the larger of which drives a vertical shaft on the inside of the column connected with the horizontal arm shaft by means of mitre gears cut from solid steel. This horizontal shaft is connected by means of beveled gears running one to two for driving the spindle. By this gearing the spindle is made exceedingly powerful,



A NEW 80-INCH RADIAL DRILL.

"What do they cost?"

"Don't remember just now. Say! That Tomson patent's run out, so we can make that now."

"We couldn't compete with Johnson. Our metal costs us more than he sells for."

"Pretty near."

"Find out what those cocks cost, so I can answer this letter. If we get this job we all can buy some of these diamonds. That ring No. 69 is a dandy."

"I don't know much about such things."

"Dick! Get me a catalogue."

"Your favor of the 17th I have, and its contents are duly noted. I beg leave to hand you my catalogue, which fairly represents my goods. For ten thousand compression cocks, page 18, I offer you 60 and 10 off from list, and I shall be glad to execute your order at that price."

MESSRS. CARRIER & MOISEN have started their saw mill at Watauga, Tenn.

making one revolution to five of the cone. The feed is simple and powerful, with a quick return attachment.

The column is made in two parts, the upper one being fitted in a stationary stump which supports the table arm. It has a full circular movement, depending, of course, upon the position of the driving belts. The table also has a full circular movement. The cone pulley has four speeds, the larger being twelve inches and the smaller six inches, and is faced for a 3-inch belt. By means of weights on the sides of the columns, as seen in the illustration, the gibbed arm is thoroughly balanced, thus allowing the operator to change its position without a moment's waste of time. Another desirable feature is that all big bolts have levers attached, thus avoiding the use of wrenches and the loss of time in looking for them. The machine is furnished complete with countershaft and with either square or round tables with T slots as desired.



The column stands six feet six inches in height and is ten inches in diameter. The vertical adjustment of the arms on column is twenty-eight inches and it will drill to the centre of eighty inches. Under the spindle and over the base a piece of work four feet four inches can be received, and

#### Van Auken's Automatic Boiler Feeder.

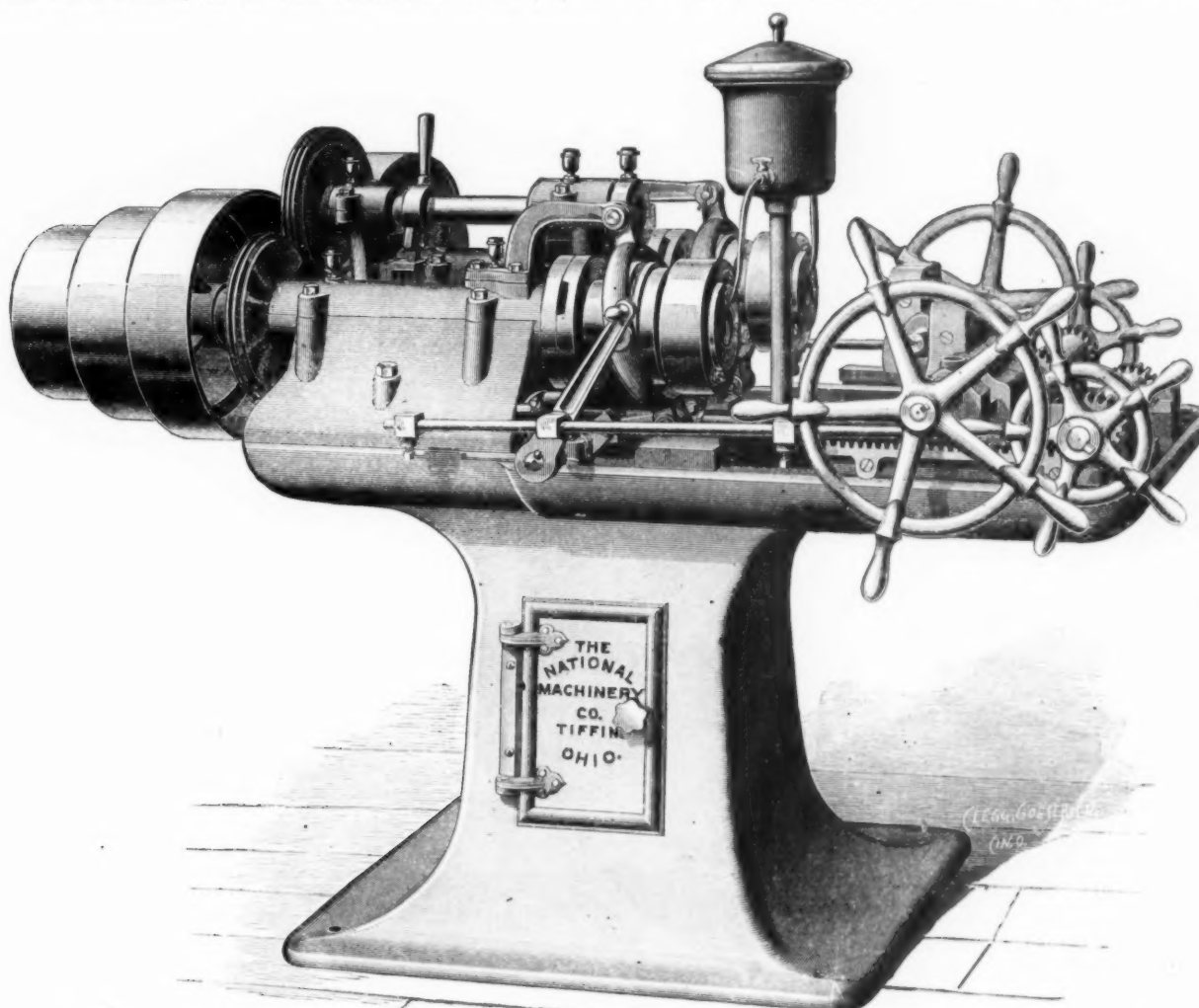
This new device, shown in the accompanying illustration, is to supply boilers with water at a high temperature, and obviates the use of pumps, injectors, traps and all other contrivances for this purpose.

ture due to the pressure under which the steam was condensed, which is never less than 212 degrees and often up to 325 degrees.

This boiler feeder is entirely automatic and requires no attention whatever. The use of weights, levers, stuffing boxes and

filling a space above the level of water in the feeder. Haythorn's trap strainers are furnished with each feeder, preventing any possibility of scale or dirt entering the feeder to destroy the valve seats, a feature well worth considering.

The operation is as follows: After the



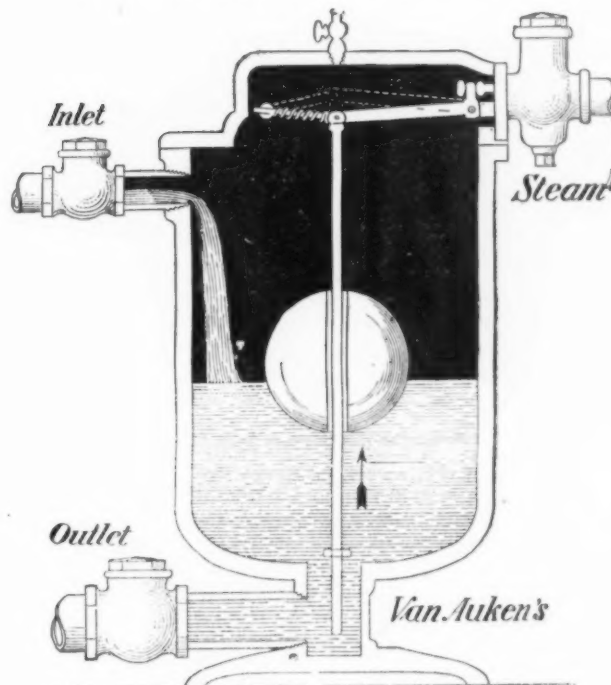
THE NATIONAL DOUBLE INDEPENDENT HEAD BOLT CUTTER.

between the spindle and floor, four feet nine inches. The table has a vertical adjustment on the lower column of eight inches and stands twenty inches above the base, the table being twenty-six inches in diameter. The diameter of the spindle is one and eleven-sixteenths inches, bored to fit a Morse taper No. 4. The spindle has a traverse of eleven inches. The two friction pulleys used are twelve inches in diameter. The speed of the counter-shaft for holes below one and one-quarter inches is 400 revolutions, and for holes above one and one-quarter inches, 200 revolutions.

#### National Double Independent Head Bolt Cutter.

The illustration shown herewith represents a double-head bolt cutter, with heads driven independently of each other by separate cones, the object of which is to be able to stop one at any time while operating the other. The pump is arranged to drive from either spindle by means of friction wheels, which are thrown into contact on either side in case one of the spindles is not running.

The manufacturers of this tool are the National Machinery Co., Tiffin, Ohio. The machine is their regular double National bolt cutter with gibbed vises, pump, etc., and with a capacity to cut two 1-inch bolts at a time. It is similar in style to the more compact 1½-inch double bolt cutter, and was made at the instance of a large axle company. The tool is also provided with the National case die and with hand and automatic opening. For illustrated circulars and prices the company may be addressed.



SECTIONAL VIEW OF VAN AUKEN'S AUTOMATIC BOILER FEEDER.

There is no exhaust steam or waste of heat, and the manufacturers guarantee to effect a saving of from 20 to 40 per cent. in fuel over any other method. It takes the water from steam heaters of all descriptions, drying cylinders, evaporating pans, brewing kettles, paper dryers, etc., whether above or below the boiler, and automatically returns the same to the boiler at a tempera-

ture due to the pressure under which the steam was condensed, which is never less than 212 degrees and often up to 325 degrees. The float and equalizing valve are attached to the cover, making it very convenient for inspection. The pulsation of this boiler feeder takes place only when it is entirely filled with water and when entirely emptied, saving the amount of steam that is otherwise lost in

feeder is placed in position, about as shown in cut, the drips from all heaters are run into the receiver and the condensation is forced up into the feeder by the pressure in the heaters, and after the feeder has become filled the equalizing valve that is connected with the steam dome will be automatically opened by a simple contrivance inside and the pressure will be equalized to that in the boiler, and the water will then flow through the lower pipe into the boiler by its own gravity. When emptied the equalizing valve will be automatically closed and the steam that remains in the feeder will be condensed, the feeder will again fill and the operation is repeated.

Swinging check valves are placed in the inlet and outlet pipes to prevent back pressure from the boiler entering the feeder and to prevent the pressure in the feeder entering the drip pipes. This device as a whole is very simple, having but few working parts, and is not liable to derangements.

The best material is used and workmanship employed in the construction of these feeders. They are fully guaranteed in every respect, and are sent to responsible parties on thirty days' trial. They are manufactured in sizes to drain from 1,000 to 1,500 feet of one-inch pipe by the Van Auken Steam Specialty Co., 201-207 South Canal street, Chicago.

It is reported that the works of the United States Rolling Stock Co. at Hege- wisch will shortly resume operations. Judge Gresham ordered the property turned over to the United States Car Co., and R. W. Ristine, manager, is now in possession, and, it is understood, will immediately get all machinery in order.

### Leaks of Solid Piston Valves.

[From the Boston Journal of Commerce.]

Anyone who has had anything to do with solid piston valves will have some idea of how much they are found to leak after a year or more of service. Engineers are inclined to wish them anywhere but in their engine-room, and if it were not that some easy means are found to put in a new valve at regular intervals it would seem that they would have a very bad record. This, of course, applies to solid piston valves where the ports have no bridges to allow the use of packing rings, which would improve them immensely. We saw an engineer the other day who was making a sort of rough-and-ready test to determine how much his piston valve was leaking.

past the valve. A glance at the exhaust showed a considerable leak, and as we had some curiosity as to how it turned out we dropped in again later in the afternoon. The engineer had left the threads on the glass to show how far the water line had dropped because of the leak. It had fallen nearly three inches, showing that about two-thirds of the steam consumption was pure leak, and, allowing for this, would bring the steam required to do the work of driving the load something about three and a-half pounds of coal per horse-power per hour. We were not surprised that there should be found a considerable leak, but we were not prepared for such a showing as that. People having such valves should know just what they are doing, for there certainly is no need of such a leak as that.

equipped with automatic sprinkler system and a fire pump than on a factory not so equipped. Aside from this, the owners of a plant having these appliances in it can readily extinguish a fire on their premises in its incipency, thereby often preventing serious loss.

These fire pumps are made of the best material, the water cylinders being of cast iron, extra heavy, and lined with bronze, removable barrels. The water pistons are of brass, and piston rods of tobin bronze. Valve seats are bronze, also the valve bolts. The rocker shafts, valve stems and links are all brass. The pump throughout is made extra strong to withstand a test of not less than 225 pounds per square inch in water ends. All pumps are fitted with fittings as shown in illustration.

the middle and the bottom. And when an average of a number of casts is desired, drillings from a section of a pig of each cast should be taken and the several in equal weights poured together.

Planings taken from across the face of the fracture contain portions of the outer skin of the metal, and besides are more or less in lumps and chips and afford a sample unfit for use. It is important that the metal should be in uniform and fine division, and the drill, if sharp, moderately small in diameter and steadily run, gives it in that condition, or at least in a condition that the analyst can rub it up in a mortar to suit his purposes.

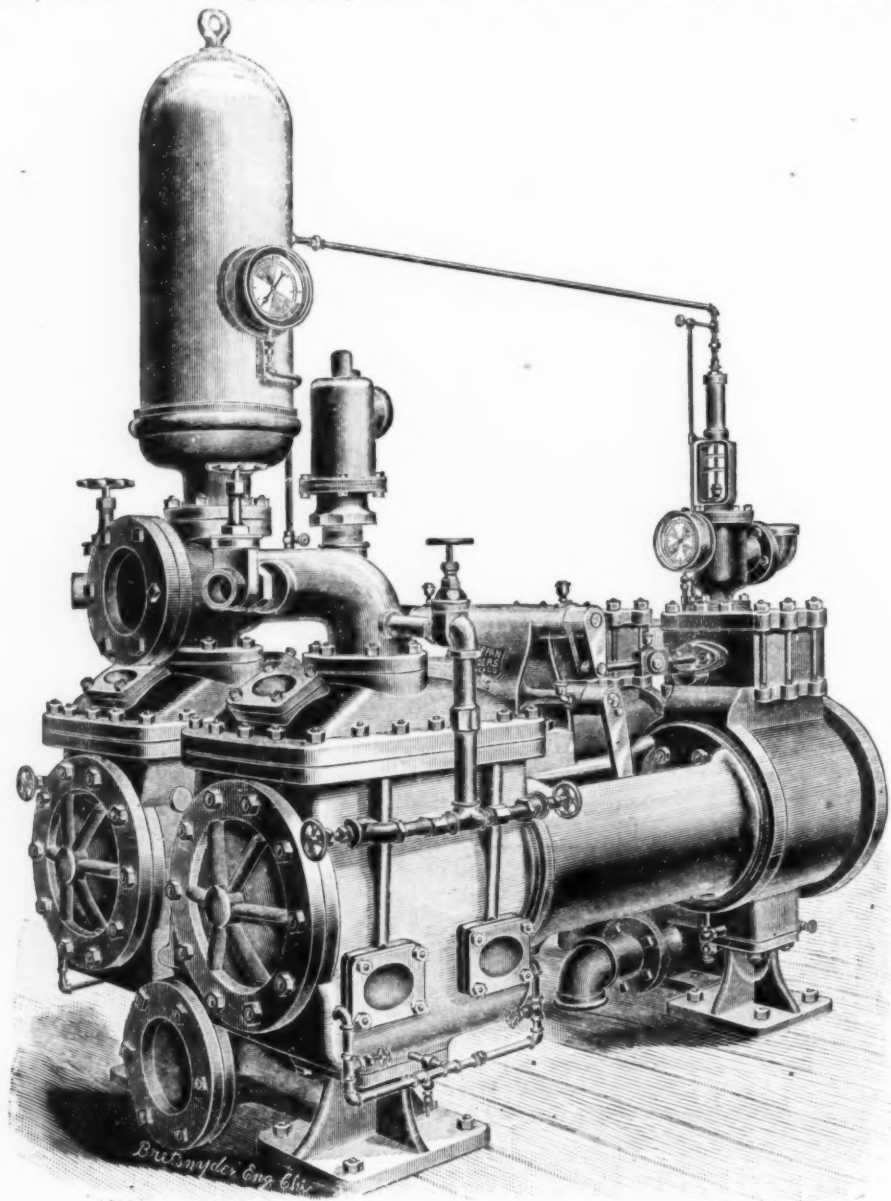
Special care should be taken to catch the drillings as they fall in a perfectly clean vessel or on clean paper, so as to keep them free from all extraneous matter; the presence of a very little sand, dust, filings or drillings of other metals, grease, etc., common in all machine shops, would make the sample worthless for analysis. Such impurities cannot be gotten rid of and the sample restored to integrity by sifting or using a magnet, as the latter itself is apt to destroy the uniformity of the mixture by magnetizing the iron enough to cause the coarser particles to cling together and leave the fine graphitoid portion partially free. Rather than attempt to restore a contaminated sample, it is always better to get a new pure one if possible, when more than rough approximates in the analytical results are wanted.

The want of strict homogeneity and uniform combination in the composition of ordinary pig metal, may be very clearly shown by sifting the fine portions of a mass of drillings from the coarse and analyzing the divided parts separately. Thus a sample of several ounces of drillings of ordinary gray metal in condition as commonly sent by iron works for analysis was in the usual manner rubbed up in a hard iron mortar sufficiently fine for all to pass through a 20-mesh sieve; the mass was then put into another sieve of fine wire gauze and shaken to separate the fine from the coarse; about one-third passed through, and afterwards equal portions of the fine and coarse were very carefully separately analyzed with the following results:

	Fine.	Coarse.
Iron.....	89.620	91.400
Combined carbon.....	.440	.350
Graphitic carbon.....	7.762	2.276
Silicon.....	1.367	1.274
Sulphur.....	.013	.009
Phosphorus.....	.071	1.162
Manganese.....	.241	.110
	99.717	99.757

Many other analyses showing similar and even greater differences might be given, but the above are enough for a clear illustration. It is thus made plain that manipulation to improve a sample should not be attempted. The drillings just as the drill produces them should be sent, and in quantity not less than 1½ ounces each sample for a full analysis, and better more to cover accidents. If sent in paper envelopes, as is commonly done, two, one inside the other, should be used, and they should be strong and tight enough to afford perfect security against breakage or leakage. It cannot be safely assumed that a partial loss consequent upon shaking or sifting out by the jolting and constant vibratory motion of the cars during long transportation would leave the remainder of the sample unchanged in constitution; rather the reverse.

A TELEPHONE was recently tried in Philadelphia which transmitted sounds with such distinctness that they could be heard several feet from the instrument. Words spoken at a distance of twelve feet were distinctly audible to a person standing the same distance from the receiver. The telephone will be tried between Philadelphia and New York after next March.



THE STANDARD DUPLEX FIRE PUMP.

He had indicated the engine, and knew from the coal he was burning under a good boiler that the engine must be very wasteful, requiring something about ten pounds of coal a horse-power per hour. He marked the water-gauge glass with a piece of linen thread and let the engine and load run an hour without pumping water into the boiler. Then he tied another thread where the water line stood at the end of the hour, and measured how far it had fallen. It had fallen a trifle over four inches. At noon he placed the engine in such a position that the valve would be closed over all the ports, and blocked the engine in that position. Then he tied a thread to show where the water line was, and opened the throttle of the engine. If the valve was tight no steam should pass out of the exhaust pipe, and all that did emerge from the exhaust must have leaked

Reboring and a new valve will probably cure the matter some, but we doubt if it will prevent considerable leak. Looking at such a valve it is found that the wear is all on the bottom, and shows clearly the need of some packing device.

### The Standard Duplex Fire Pump.

The Wheeler & Tappan Manufacturing Co., of Chicago, has recently placed on the market a standard steam duplex fire pump, shown in the accompanying illustration. This pump is constructed in strict accordance with the specifications of the committee on improved risks. They are made in several sizes, with a capacity ranging from 500 to 1,000 gallons per minute. It is very generally known by business men that a much cheaper rate of insurance can be obtained on a factory that is

### Pig Iron Drillings for Analysis.

[Notes of experimental work by the Iron Masters' Laboratory, Warrenton, Va.]

Pig irons are never strictly homogeneous in composition; the constituents of the metal of one cast are not exactly in the same relative proportion as in the metal of another cast, though they be produced without apparent change of conditions. Even of the same cast, the top part of any one pig usually differs from the bottom part, and the middle may differ from the other parts. A difference in granular structure or crystallization is indicative of a difference in the relative proportions of the constituents. Therefore, to obtain an average sample for analytical purposes, it is best to break out a section from the centre of a pig, and at right angles with the fracture take drillings from its face at near the top,



## LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department, on pages 138 and 139.]

## English Methods of Selling Timber.

LONDON, September 6.

Nothing I have seen is more characteristic of the Englishman's clock-work methods than the way he handles lumber. Below London, on both sides of the river Thames, are located timber docks which stretch along the shore for miles. Ships that enter the port of London discharge their cargoes in these docks, and they are stored subject to subsequent removal by the purchaser. In case a cargo is contracted for before it lands, it is then discharged at some particular dock or on to lighters. But that class of business, which has grown to enormous proportions, which places a ship of material "on the market," uses any of the many storage ponds and sheds. In London the technical trade phrase "on the market" means that the timber is sent here and placed in the hands of a broker, who sells it at public outcry on stated sale days. Freight, transference, storage and brokerage are deducted from the gross amount of the receipts and the remainder is remitted to the shipper. This system differs but little from the time-worn usage of the cotton traffic in the South, where the planter ships to the factor and the latter sells it to the highest offer. In London the broker charges for his services 1 per cent. on the gross cargo. I give below a full reprint of the conditions of these auction sales. These conditions govern the transaction from the London dealer and the broker from whom he buys at auction:

The highest bidder (in due time) to be deemed the purchaser, and in case of a dispute the lot to be put up again.

The buyers to declare their names and residences, and deposit 10 per cent. on the computed value of each lot, if required; the remainder of or all the purchase money, with one shilling per lot for lot money, payable to the brokers at the time an order for delivery is given.

The goods to be paid for to the brokers on or before the prompt of fourteen days, either in money, deducting six months' discount at the rate of 5 per cent. per annum (or the bank of England rate on the day of sale if above 5 per cent. per annum), or by such acceptances as the sellers may approve of, due at or within six months from the day of sale.

The goods to be received as and where they lie, at the buyer's expense, with all faults and defects, and without any allowance for error in description, the timber and logs according to the raised contents, and other goods as they may rise from the piles; the dimensions when given being according to the shippers' assortment or designation, unless otherwise specially described. Any rent incurred after four weeks to be paid by the buyers of the respective lots.

In default of compliance with the above conditions, the deposit money, if any received, to be forfeited to the owners of the goods, and the purchasers liable to them for all loss and charges attendant upon a resale, either by private contract or public auction.

All goods sold at this sale to be at the risk of the sellers in respect of fire, provided such goods have not been removed from the docks for thirty days from the date of sale, or from thirty days from the date of the second day when the sale extends over two days. In the event of non-delivery by loss from fire, the contract for such portion to be void and the deposit, if any paid, to be returned.

Three methods of storage are practiced at the docks, either of which may be chosen by the shipper or his broker, and the price is regulated accordingly. If the lumber is placed in sheds, as is necessary with dried and dressed material, the highest price is charged; if stacked up in the open air, a less price is charged; if rafted in the ponds prepared for the purpose, the lowest rate is charged. These ponds are made from canals which enter the Thames, and are connected each with the other by short narrow waterways over which are built drawbridges. Each pond covers about an acre, is cut square and hollow, and around the margin of each are the sheds or open spaces for storage. It is necessary to store

the heavy timbers and logs afloat to prevent cracking and splitting.

The charge for transferring from the ship to either of these classes of storage, including one month's rent of the space occupied, varies from seventy-five cents to \$1.25 per thousand.

About ten days before a public sale day the broker issues a large catalogue which contains full particulars as to the vessel on which the timber arrives, the port from which it sailed, the name of the manufacturer of a special brand, the numbers and dimensions of the pieces to be sold and the yards and ponds of the docks in which it is stored, besides kind and grade. A copy of this catalogue is mailed to all reputable dealers that buy "in the London market." Thus each dealer can inform himself fully about the stuff on which he expected to bid.

On Wednesday last, August 31, I attended a sale at the Great Hall, Winchester House, Old Broad street, London, E. C. Precisely at 12 o'clock the auctioneer took the stand and the sale continued for four hours in that quiet, orderly way peculiar to English business men. About 150 dealers were present, the number varying as parties came and went. The sales represented fifteen to twenty cargoes, including all kinds of commercial woods from all quarters of the world, and 538 distinct lots were disposed of, yielding about \$150,000. The hall was as cleanly as a church, and the sales were conducted with as much decorum as a Sunday service. The men were remarkably well-dressed, and all kept their silk hats on their heads during the sale, as did the auctioneer. Instead of standing up, allowing each other's ribs and treading on each other's corns, as would have been the case in America, they sat on long desks like well-behaved school-boys.

Below I give a full report of the sale of a vessel-load of sound square-edge pitch pine (known to us in the South as long-leaf yellow pine), which I copy literally from a page of the broker's catalogue, inserting the price at which it sold in dollars and cents per load of 600 square feet. Experienced timber merchants assured me that the prices which this cargo brought are fairly up to the present prevailing prices of pitch pine in this market. This stuff was sold lying in the water rafted, at which point the buyer received it:

## AT THE SURREY COMMERCIAL DOCKS.

at Shellburne, a Pensacola, 1 Quebec Pond.

(Without Reserve.)

Sullivan's Shipment.

LOT				
279	18 Pieces Fresh Sawn Pitch Timber,			
	12 to 14-inches 36 to 40-feet,	\$4	50	
280	15 Ditto, 13 to 15-inches 27 to 30-feet,	13	45	
281	18 Ditto, 12 to 14-inches 30 to 34-feet,	13	75	
282	18 Ditto, 12 to 14-inches 29 to 33-feet,	13	20	
283	18 Ditto, 12 to 13-inches 30 to 34-feet,	13	75	
284	18 Ditto, 12 to 14-inches 27 to 31-feet,	13	50	
285	18 Ditto, 12 to 13-inches 30 to 34-feet,	13	50	
286	20 Ditto, 14 to 16-inches 21 to 29-feet 2 1/2	14	17	
	14 17 19 23 44 1/2	12	50	
287	18 Ditto, 12 to 14-inches 23 to 26-feet,	12	50	
288	18 Ditto, 12 to 14-inches 21 to 25-feet,	13	00	
289	20 Ditto, 9 to 11-inches 37 to 40-feet,	13	50	
290	20 Ditto, 9 to 12-inches 39 to 43-feet,	13	00	
291	20 Ditto, 9 to 11-inches 36 to 39-feet,	13	00	
292	20 Ditto, 9 to 11-inches 30 to 33-feet,	12	75	
293	20 Ditto, 9 to 11-inches 37 to 40-feet,	12	50	
294	20 Ditto, 10 to 11-inches 32 to 36-feet,	12	50	
295	20 Ditto, 9 to 11-inches 37 to 39-feet,	12	50	
296	20 Ditto, 9 to 11-inches 36 to 39-feet,	12	75	
297	20 Ditto, 9 to 11-inches 34 to 37-feet,	12	75	
298	20 Ditto, 9 to 11-inches 34 to 36-feet,	12	75	
299	20 Ditto, 9 to 12-inches 33 to 37-feet,	12	75	
300	20 Ditto, 9 to 11-inches 33 to 36-feet,	12	75	
301	19 Ditto, 9 to 11-inches 30 to 33-feet,	12	75	

It is well to repeat that the above cargo was simply log run or sound square edge. Pitch pine of strictly prime quality generally sells for from \$4 to \$7 higher per thousand.

C. J. HADEN.

The North State Lumber Co. has been formally organized at Sunbury, N. C., and Wm. H. Bosley, of Baltimore, Md., elected president, and Geo. L. Barton, of Suffolk, Va., secretary and treasurer.

## How Cypress is Shaped Up in the Louisiana Trade.

Northern operators who have gone South to manufacture and distribute cypress lumber have met with a large degree of success in classifying, grading and shaping their stock to meet a miscellaneous demand. In this respect some of them at least have closely followed the methods they practiced in the handling of Northern pine. By sawing their lumber into boards and strips, and a proper portion of thick stock, they have been enabled to make their output meet the wants of a diversified requirement, and grade so as to get a fair profit from manufacture and distribution. One of the leading concerns in Louisiana is doing a regular wholesale yard trade in connection with its large mill. Carload lots of straight sorts or mixed schedules are being sold throughout Texas, Indian Territory, Oklahoma, Kansas, or anywhere West, East or North, with a good home trade to swell the volume of business. A glance over its price-list shows how mill output in Louisiana is assorted, graded and fitted to the general yard trade. It is to be observed also that much of the lumber turned out of cypress mills is especially adapted to factory purposes, and that it is consequently shaped up with that in view.

Tank stock is cut into four thicknesses, from 1 1/4 inches up to four inches. It is always good sound lumber, but has a special grading different from firsts and seconds. It can have sound knots, an inch of sap on one side, extending half the length of the piece; that is, it can have a little sap. It must be five inches and over wide, and eight feet and over long. It can be seen that a good Sawyer can make his skill earn a good deal of money in cutting tank stock.

First and second clears in yard stock include thicknesses from 1 1/4 inch up to four inches. The classification includes thick factory lumber or plank 1-inch finishing, and 4 and 6-inch strips.

Selects are sawed 1, 1 1/4, 1 1/2 and 2 inches in thickness.

The shop or cutting up class is in thicknesses from 1 to 2 inches, and must be at least 7 inches in width. Such lumber must be good enough to work three-fourths of each piece.

There is a class called "merchantable" which includes four thicknesses, from one inch to two inches, and is really a common grade of stock, and may have knots, sap, shake or peck, when the strength of the lumber is not thereby impaired.

There is a class called "peck," which is cut into thicknesses from one inch to three inches. "Peck," as is well known, is peculiar to cypress, but wood thus affected is by no means worthless. It is good for sidewalks, ground sills or plank fencing and other purposes, and can be had at a very low price.

The lumber included in the classes named is unworked stuff, except that the lumber is surfaced one or two sides as the customer may desire. Then comes lumber that is worked for specific uses, namely, flooring, ceiling, siding, car stuff, moldings, pickets, battens, etc. Flooring and ceiling is graded as A and clear, B, C and D, and are four and six inches in width. Corrugated ceiling is made and carried in stock. Beaded partition is an item, and special designs are made to order.

Siding is graded as clear, A or No. 1, B or No. 2, C or No. 3 and D or No. 4. Though the price-list referred to does not state that different varieties are furnished, it is probable that wide and narrow beveled and drop siding can be obtained in cypress as well as in pine or poplar.

Rough and dressed car siding and roofing is supplied in any desired quantity, and it is much used in Southern shops. It is cut four and six inches in width and in 5 and in 8-foot lengths.

Pickets and battens are made in the several varieties and are carried in yard stock.

Square turning stock is an item of trade. It is furnished in the sizes of 2x2, 2 1/2x2 1/2 and 3x3, 4x4, 5x5 and 6x6 inches.

A full line of sash, doors and blinds is sold by a fully equipped yard concern.

Of shingles every good cypress yard makes a specialty. Sales have become so common all over the country that the classification is generally known. The list includes ornamentals, which are five inches wide; bests, four, five and six inches; primes, of the same widths, extra xAs, random widths and clippers—the last named a low, cheap grade.

Laths, plastering and fencing completes the list.

It will be seen, that while inch and thick shop and clear lumber is fairly well diversified in grade and manufacture, there is not a great variety in the common grades. As a rule cypress is either very good or rather poor. The better grades predominate, as in yellow pine. There will always be less account taken of the coarser grades than in white pine. In the yard list, from which these observations are made, there is no framing dimensions scheduled. Cypress is essentially a shop and house trimming lumber. It will probably never largely enter into the framing feature of building operations. Still, a well assorted yard stock includes many varieties on which can be based an extensive carload distributive trade.—*Northwestern Lumberman.*

## Southern Lumber Notes.

MESSRS. SNOODGRASS & FIELDS, of Chattanooga, Tenn., have torn down their saw mill at that place and will rebuild it. The old machinery will be thoroughly overhauled and then replaced in the new building.

MESSRS. GIBERT BROS., new shingle mill at New Iberia, La., has commenced operations. Its daily capacity is 250,000 shingles.

THE steamship Cherokee left Jacksonville, Fla., last week with freight, including 350,000 feet of lumber.

THE Niemeyer & Darragh Shingle Co., of Little Rock, Ark., intends to increase the output of its plant about one-third.

THE Donaldson (Ark.) Lumber Co., F. W. Graem, manager, is operating a planing mill of 25,000 feet daily capacity. This concern buys lumber in the rough, dresses and sells to the trade.

THE steamship Seminole left Jacksonville, Fla., last week with freight, including 363,000 feet of lumber and 4,000 bundles of shingles.

THE Texas Tram & Lumber Co., of Beaumont, booked an order last week for 75,000 ties.

MESSRS. CARMICHAEL & MILLER have about completed their handle factory building at Johnson City, Tenn., and will at once put in machinery. Operations will commence in about ten days.

MR. P. S. WISE has commenced the erection of a spoke factory at Buena Vista, Va.

WORK on the erection of the buildings for the new spoke and handle factory at Huntsville, Ala., has been commenced. H. W. Russell, the principal owner of the plant, will be the general manager. About thirty men will be employed.

MESSRS. DENMAN & RITTER, of Oakvale, W. Va., have leased 3,000 acres of poplar timber lands for the purpose of cutting the timber.

THE Beaumont (Texas) Lumber Co. shipped 4,600,000 feet of lumber during August, a gain over August, 1891, of 500,000 feet.

M. R. GRANT and F. C. Jocelyn, of the Interstate Lumber Co., have invented a

new device for unloading logs and large timbers from cars. It works by means of two conveyors, to each of which is attached a pair of skidding tugs. With this simple machine two men can handle more timber, and with much less difficulty, than a dozen with any other means. The machine is being built by the Link Belt Machinery Co., and is to be put into operation in their new mill at Meridian, Miss., about October 1.

measuring four feet in length by two feet three and one-half inches in width.

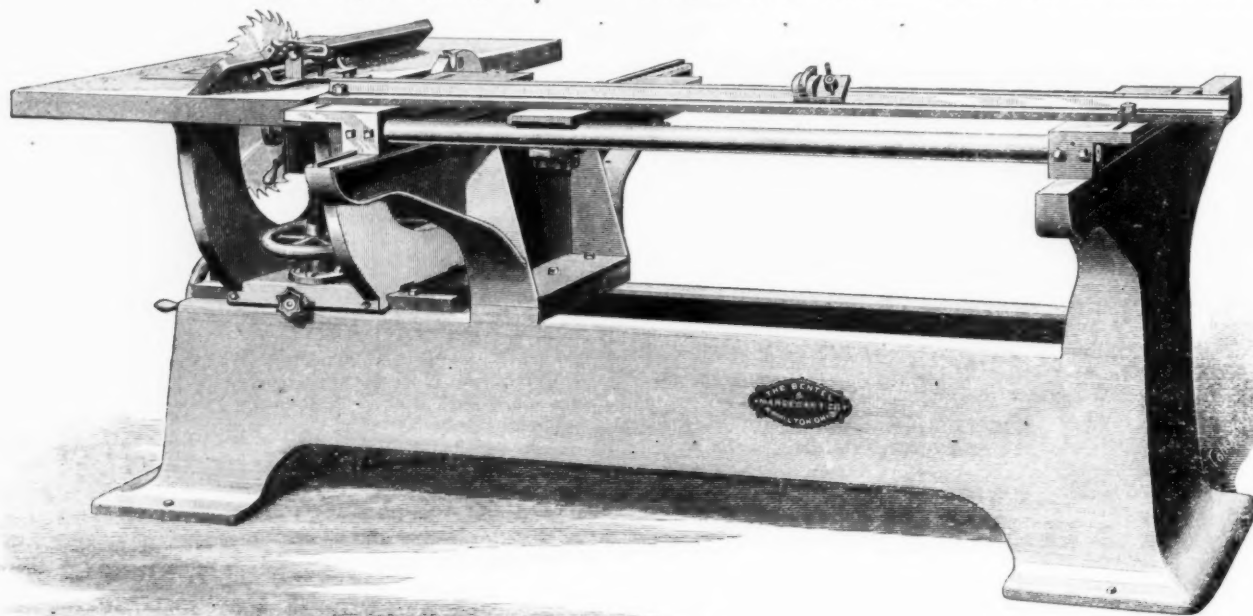
The fence and bevel rest shown on the top is adjustable for various angles and distances from the saw. It travels in a planed groove and its position is always accurate. In addition to this fence the machine is provided with a sliding gaining frame, operating in a groove running lengthwise of this table, for angular or mitre cut-off sawing or straight or angular gaining.

machine is five feet three and a-half inches long by two feet two inches wide. It travels on a V slide on one end across the machine and on wheels or rollers on the other end with easy accurate motion. The brackets on which it rests and travels are six feet long, affording ample room for wide material. The fence on this table is adjustable across it, and the adjustable stop in the centre can also be drawn back out of the way in case various distances

diameter than the log. The latter is ten inches in diameter by six inches face and should make 750 revolutions per minute.

#### The Linham Dado Machine.

The accompanying cut shows the improved dado machine manufactured by the Linham Dado Machine Co., of Mansfield, Ohio. This machine is noted for fine work, and especially square turned work such as balusters, newel posts, porch



COMBINATION WOODWORKING MACHINE.

MESSRS. L. C. HUDSON AND J. T. FORINGER have purchased the Sweetwater Lumber Co.'s plant at Florence, Ala. Considerable additional machinery will be added, the buildings enlarged and operations commenced in about thirty days.

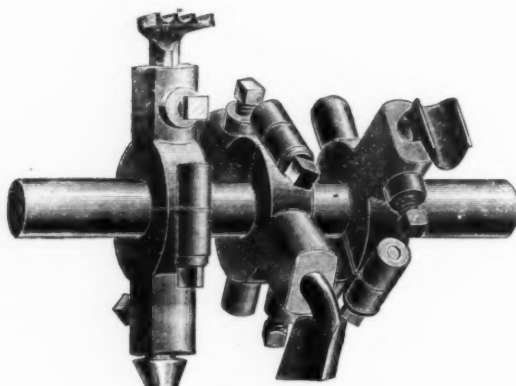
THE South Norfolk Lumber Co., to which a charter has been granted at Norfolk, Va., proposes to manufacture lumber and buy and sell timbered lands in Virginia and North Carolina. Messrs. J. T. Neal and Bull & Briggs compose the company, and have purchased a hand saw mill complete, with kilns for drying product, and expect to be in operation by January 1.

MESSRS. A. C. H. HOLLY and F. NEMEGYER & Son have purchased extensive tracts of timber lands on the Greenbrier river in West Virginia, together with water and bank rights. They intend to erect several saw mills and operate extensively in hardwoods.

#### Combination Woodworking Machine.

The combined gaining, plowing, cut-off and rip-saw machine shown in the accompanying cut, and made by the Bentel & Margedant Co., of Hamilton, Ohio, is one requiring no change of parts to adapt it to the various operations for which it is intended, but merely the change of a cutter-head for a saw or vice versa. It stands ready for operation at all times, being well arranged for quick and accurate work and a strong durable tool, with provisions for readjustment of all parts should it be found necessary.

The frame is cast in one solid piece and of very strong and convenient form. The table and brackets on the left end are adjustable in the line of the length of the frame; that is, they can be moved back and forth, to and from the other or sliding table frame. Thus a gaining head or saw on the right-hand end of mandrel (or between the two tables) will operate close to the rest plate of the sliding table, preventing splintering, and there is also ample space afforded when it is desired to use gaining or tenoning heads of various widths on the projecting mandrel. This table is adjusted by means of the hand wheel partly shown at the extreme left, and is of good size,



THE LINHAM DADO MACHINE.

columns, plinth and corner blocks, beading, door panels across and lengthwise of grain, cutting moulding and beads on segment casing, etc., and in fact it cuts across grain as smooth as if planed. The knives or cutters are made in a great variety of designs with shear cut, insuring smooth surface. It will make square work more speedily than the lathe does round work, and more plinth and corner blocks and similar work can be worked out in one hour with this machine and more perfect than can be made in one day with scroll or band saw. The machine may be attached to any woodworking machinery that has a mandrel for woodworking heads or saws. The heads are simple in construction, easy to operate and not liable to get out of order.

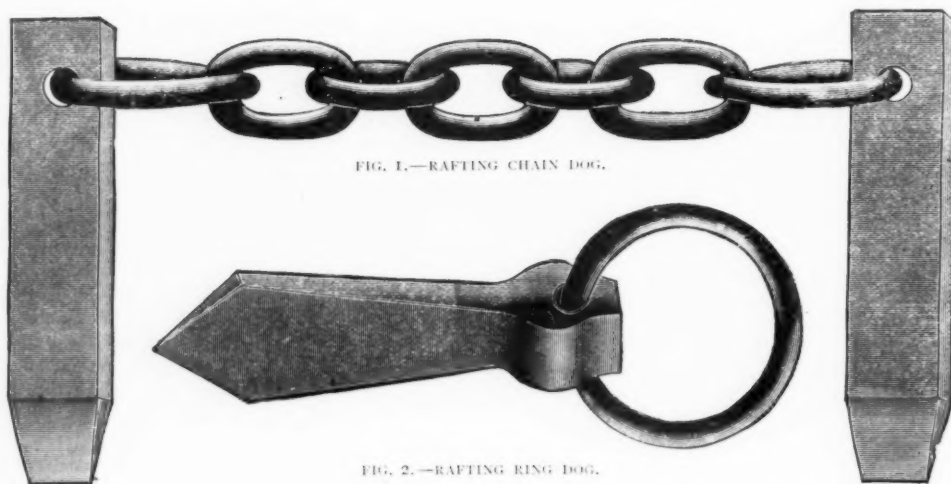


FIG. 1.—RAFTING CHAIN DOG.

FIG. 2.—RAFTING RING DOG.

The mandrel of this table is hung with its housing on pivots at the back so that it can be raised and lowered for depth of cut or for gaining, rabbetting, halving or tenoning. The mandrel overhangs on both sides of the housing so that cutterheads and saws of various sizes can be used. The rip saw shown can be exchanged for a cross-cut saw or plow head, and the gaining head shown on the other end of mandrel for a cross-cut saw, rabbetting head or extension gaining head as the work may require.

The sliding table on the other end of the

for sawing and gaining are desired.

Two operators can use the machine at same time, one ripping long material or cross-cutting short material or plowing, while the other uses the sliding table for gaining, tenoning or cross-cutting. The whole length of the machine is seven feet nine inches and the weight about 1,900 pounds.

The countershaft is attached to the machine back of the front table and has tight and loose pulleys of our patent differential pattern, the loose pulley being of smaller

#### Rafting Chain Dogs.

A tool which every lumberman will appreciate is the rafting chain dog shown in Fig. 1 of the accompanying illustration. The old plan of holding log rafts together was to bore holes in the logs and drive pins in these, then tying all together to a pole. The dog shown avoids this and saves lumber and time, as all that is necessary is to drive the dogs into the logs.

Fig. 2 represents a ring dog, which is also of great service in holding and rafting logs.



These useful tools are made by the Queen City Supply Co., of Cincinnati, Ohio, and during the past season there was such a demand for these goods that their facilities were not great enough to keep up with orders. For this season preparations have been made which will enable them to fill all orders promptly. This house is well known to lumbermen as carrying a large stock of lumbermen's, mill, mining and machinists' supplies.

### In the Memphis District.

[From our own Correspondent.]

MEMPHIS, TENN., September 20.

John W. James, timber contractor in the delta, and who knows the delta and its timber better than any other living man, says that the demand for hardwood logs is far beyond his ability to fill; that this line of lumber has increased in its use more than double in the last eighteen months, and has at least quadrupled in the three years past, and that it is almost impossible to procure dry stock at any of the delta mills. Mr. A. P. Taylor, who is getting his new mill at Matagorda, Miss., in shape, and who comes in each Monday to waste my time and tell large timber stories, reports the same condition of the trade, and that they have already sufficient orders to carry them through the fall. L. L. Crisp, who has been contracting agent for the Georgia Central road here, and in that capacity has become very popular with the lumbermen, came in to say good-bye as he was leaving to accept a promotion to the same position at St. Louis. The St. Louis lumbermen will find him an agreeable addition to the railroad officials of that city.

I have recently found reason to add to my regard for red gum, notwithstanding its warping tendencies. I was shown at the county seat of Fayette county, Tenn., one of the wealthiest inland counties in the South before the war, some houses that were built in the "forties" and were sided with gum siding. There was not a sign of warp, decay or starting anywhere; the siding was as good as when put on; neither the years, the wind nor the storms had worn or injured it, showing that it had lasted better than poplar or pine would have done.

On September 14th the Keystone Mills Co., of Evans, Ark., filed articles of incorporation; capital \$20,000; R. L. Sharp, president; W. H. Starr, secretary. Fourteen carloads of machinery have already arrived for the Huntsville (Ala.) Hub, Spoke and Handle Factory; it will employ forty-five skilled mechanics. M. R. Grant and F. C. Jocelyn, of the Interstate Lumber Co., have invented a new and practical device for unloading logs and heavy timber from cars. They are having a machine built by the Link Belt Machinery Co., and will put it at work in their mill at Meridian, Miss. J. M. Meyers, of St. Francis, Ark., is preparing to add another saw mill to his present saw and planing plant. E. R. Latta, of Huntsville, Ala., has sold his planing mill to W. S. Wells. Wm. Haar, who came from Lebanon, Ind., to St. Francis, Ark., and started a saw mill, has sold out and gone back to Indiana. The Coahoma Lumber Co., of Clarksdale, Miss., has been organized for general lumber and shingle business. Ammors & Burdett, of Malden, Mo., will enlarge their heading factory there by removing to it the machinery they are now using in Ohio and Indiana.

PROF. WILLIAM B. PHILLIPS, who is well known from his connection with the geological surveys of North Carolina and Alabama, afterward with the University of Alabama, and recently with the Grand Rivers (Ky.) enterprise, has gone to Leaksville, N. C., on professional business, and after October 1 will accept a position on the staff of the *Engineering and Mining Journal*, of New York.

## LUMBER MARKET REVIEWS.

### New York.

OFFICE OF MANUFACTURERS' RECORD,  
No. 126 Liberty Street,  
NEW YORK, September 21.

We regret to learn that a number of our Southern friends have quarantined New York. This, we presume, is on the supposition that New York is unhealthy. As a matter of fact, New York to-day is the healthiest city in the United States, and 99 per cent. of its inhabitants stand no more in dread of the cholera than they do of the summer wind. Everybody is going right on about their business just the same as they always have done. There is no scare, and except for the embargo which has been necessary to be put upon foreign goods, business is not interfered with. It is foolish for any city to quarantine New York to-day. The unfortunate thing about quarantine is that it affects business as much in the city which establishes the quarantine as it does the city which is quarantined. Take the advice of a man on the grounds and remove your quarantine; the quicker the better. New York won't give you the cholera this year or any other contagious disease. Let us see what we can do to help each other to revive the depressed business rather than do something to still further pound it down.

News comes to us that the yellow pine manufacturers are depressed. We presume this is true. They have reason to be depressed. They have had a pretty hard time, and they are going to have a pretty hard time. There is only one remedy—organization. We understand that one or two big concerns in the South are opposed to organization simply because they are making money, while all the rest of the manufacturers are going to the demerit bow-wows. This is a dreadful state of affairs, and one which calls for vigorous treatment; in fact, vigorous and prompt treatment is the only thing to-day which will save the yellow pine men of the South as a class from ruin. They had better take the bull by the horns before it is too late.

Building orders, 12 in. and under, \$19 50 to 20 00  
" 14 in. and up, 20 00 to 21 00  
Yard orders, random, 17 00 to 18 00  
Ship stock, 40 ft. average, 22 00 to 23 00  
Heart face siding, 1 and 1 1/2 in., 18 00 to 19 00  
1-inch wide boards, 22 00 to 23 00  
1 1/2 and 1 3/4-inch wide boards, 23 00 to 24 00  
Kiln-dried sap, 15 00 to 16 00  
Rift-sawn flooring, rough cargo lot, 36 00 to 38 00  
" tongue and grooved, in carload lots, 40 00 to 42 00

North Carolina pine, in marked contrast to its more Southern sister, holds its own in great shape. Mill men are happy and making money. They have got an organization which pleases them, and which they stick to and swear by.

The Southern hardwood market continues about as in our last letter.

Cherry is in good demand, but whether it is or not makes no difference to the holders, because they know that they are bound to get the price they ask for it sooner or later, and they are not going to slaughter it to make a sale. Good firsts and seconds are worth about \$90 and \$95 for inch, and about \$100 for inch and a quarter, inch and a-half and two inches. One-inch rejects are worth from \$42 to \$45, inch and a-quarter, inch and a-half and two inches are worth from \$45 to \$47, while culls are worth from \$16 to \$20. One-inch strips about \$48 or \$50, and inch and a-quarter, inch and a-half clear strips \$50 to \$60.

Quartered oak continues in fair demand; nothing heavy, but it is still a popular wood, and is bound to remain so.

1x6 inch and up, \$49 00 to 50 00  
Thicker, 50 00 to 53 00  
Common, 35 00 to 38 00

There is very little call for common and none to speak of for culls.

Plain oak is in fair demand for good stock, but not quite so good as was the case earlier in the season, the market having to some extent been stocked.

1x8 inch and up, \$35 00 to 36 00  
1 1/2 and 1 3/4 inch, 36 00 to 38 00  
2 inch, 37 00 to 39 00  
Export oak, 32 00 to 34 00

We would at no time advise the shipment of culls, as shippers would have to take anything they could get.

There is nothing new to be said about poplar. It don't advance, notwithstanding a scarcity, and white pine has gone up from \$1 to \$4 per thousand. Poplar keeps right along in the same old rut. We wonder why this is. We presume various other people who are more deeply interested are wondering the same thing. There certainly is a chance for improvement, and we should like to see it come.

Ash is a pretty good wood, and it always was and always will be; no trouble to sell it if it is good stock. It never makes much of a flurry, but it gets there just the same.

1 inch, \$35 00 to 37 00  
1 1/2 and 2 inch, 37 00 to 40 00  
2 1/2, 3 and 4 inch, 38 00 to 41 00  
Common, 22 00 to 24 00  
Balsam, 22 00 to 26 00

The prophet of the lumber trade has made the following predictions: "We will have no cholera this year. We will have a cold winter. We will have no cholera next year. We will have no labor troubles next year. We will have the biggest kind of a big year next year, commencing about March, so girl on your armor and keep marching along."

### Baltimore.

OFFICE MANUFACTURERS' RECORD,  
BALTIMORE, September 22.

In the local market trade shows a more decided activity than for some time past, and the tone of values is more steady, with a good demand for certain dimensions of choice manufactured stuff. The feeling among operators has improved, and the volume of trade for the week shows a better range of values. Virginia and North Carolina pine is in fair demand, and receipts continue liberal and more than ample for the demand, while all desirable stock, however, commands better figures. Air-dried box boards are in good supply for certain dimensions and sell readily when proper sizes are offered. Cypress timber is firmer and the demand better, especially for best grades. In white pine there is some business doing, and the market quiet, with values firm. All hardwoods are in regular demand and prices are very steady, especially for desirable stock. The planing mills and box manufacturers are all reported busy, and prices are still very low. There is a good demand for shingles, and prices firm, with a scarcity of good stock. Laths are quiet and nominally steady, with a moderate inquiry. The following table represents the prices current at this date:

VIRGINIA AND NORTH CAROLINA PINE.	
5-4x10 and 12 No. 2, kiln dried, 16 75	
4-4x10 and 12 No. 1, 19 50 to 20 00	
4-4 narrow edge, No. 1, kiln dried, 16 75 to 17 25	
1 1/4 wide edge, " " " " 18 00 to 19 00	
6-4x8, 10 and 12, " " " " 22 00 to 22 50	
4-4 No. 1 edge flooring, air dried, 15 50 to 16 00	
4-4 No. 2 edge flooring, 12 50 to 13 50	
4-4 No. 1 12-inch stock, 16 50 to 17 50	
4-4 No. 2 " " " " 13 50 to 14 50	
4-4 edge box or rough wide, 9 75 to 10 25	
4-4 " " (ordin' widths) 8 00 to 9 00	
4-4 " " (narrow) 8 25 to 8 75	
4-4x12 " " " " 10 00 to 10 50	
3/4 narrow edge, 7 00 to 8 00	
3/4 all widths, 8 00 to 9 00	
3/4 10x16 wide, 9 00 to 10 00	
Small joists, 2 1/2-12, 14 and 16 long, 8 00 to 8 50	
Large joists, 3-16 long and up, 10 00 to 11 00	
Scantling, 2x3-16, 9 00 to 9 50	
" 2x4-16, 18 and 20, 9 00 to 9 50	
" 3x4-12-16, 10 00 to 10 50	
" 3x4x12-16, 10 00 to 10 50	
" 6-4x10-16, 9 00 to 9 50	
" 8-4x10-16, 9 00 to 9 50	
Siding and edge boards, 14 00 to 14 75	
Heart face boards, 22 00 to 23 00	

WHITE PINE.	
1st and 2d clear, 4-4, 4-4 and 5-4, 48 00 to 51 00	
" " 5-4, 6-4 and 8-4, 48 50 to 51 50	
3d clear, 4-4, 5-4, 6-4 and 8-4, 43 00 to 44 00	
Good edge culls, 14 50 to 15 50	
Good stock, 17 00 to 17 50	
White pine, No. 1, 4-foot headed pickets, 13 50 to 14 50	
4-4 selected edge, 39 00 to 43 50	
6x8-4 selected edge, box end, 39 00 to 45 00	

CYPRESS.	
4-4x6, 16 feet, clear, 22 50 to 23 50	
4-4x6, 16 feet, fencing, 12 50 to 13 50	
4-4 rough edge, 9 00 to 9 50	
4-4 edge, No. 1 and 2, 18 50 to 21 50	

WALNUT.	
5/8, Nos. 1 and 2, 75 00 to 100 00	
4-4, Nos. 1 and 2, 50 00 to 100 00	
5-4, 6-4 and 8-4, 95 00 to 110 00	

Nos. 2 1/2, 3 and 4, 125 00 to 135 00  
Newell stuff, clear of heart, 125 00 to 135 00  
Culls, 30 00 to 35 00

Oak.  
Cabinet, white and red, plain sawed and good 1 and 2, 8 in. and up, 12 to 16 feet long, 4-4, 35 00 to 40 00  
5-4 to 8-4, 35 00 to 40 00  
Quartered white, 1 and 2 quality, all figured, 6 in. and up wide, 4-4, 50 00 to 52 50  
Culls, 10 00 to 15 00

Poplar.  
Nos. 1 and 2, 2 1/2, 21 00 to 23 00  
" " 4-4, 24 00 to 26 00  
Nos. 5, 6 and 8-4, 27 00 to 30 00  
In yellow pine cargoes, log run stock, 12 00 to 16 00  
Culls, 12 00 to 14 00

SHINGLES.  
Cypress, No. 1 hearts, sawed, 6x20, 7 75 to 8 00  
No. 1 saps, sawed, 6x20, 6 00 to 6 50  
No. 1 hearts, shaved, 6x20, 6 50 to 7 00  
No. 1 saps, shaved, 6x20, 5 25 to 5 50

LATHS.  
White pine, 2 75 to 2 90  
Spruce, 2 40 to 2 55  
Cypress, 2 15 to 2 30

### Norfolk.

[From our own Correspondent.]

NORFOLK, VA., September 19.

The condition of the lumber and timber market, both at this port and throughout the milling section of Virginia, presents many encouraging features. At the wharves and docks around this city there is a fairly active movement, and the situation generally is considered very promising. A feature in this industry is the uniformity in prices and the steadiness of values throughout the general list. The North Carolina Pine Lumber Co. is perhaps one of the most complete lumber organizations of the day, and their adherence to the regular standard of prices adopted by their executive gives the market at all times a buoyant feeling. This organization embraces the most powerful companies in capital and influence, while all their deliberations in relation to the lumber industry tend to strengthen the general market. The demand during the week for the kiln-dried pine has been uniform and fairly active, without a change in values. Air-dried lumber is looking up and the inquiry more decided than for some time past. Cypress lumber is in good request and shingles rather scarce, the output not being sufficient for the brisk demand at the moment. The following list of values represents the prices current at this date:

Kiln-dried North Carolina pine lumber f. o. b. at this port is quoted as follows:

5-4 rift No. 1, \$27 50 to 30 00	
5-4 rift No. 2, 16 00 to 18 00	
5-4x10 No. 1, 19 00 to 20 00	
5-4x12 No. 1, 15 00 to 16 00	
5-4x10 No. 2, 13 50 to 15 00	
5-4x12 No. 2, 13 50 to 15 00	
5-4 edge No. 1, 17 00 to 18 00	
5-4 edge No. 2, 13 50 to 15 00	
4-4 rift No. 1, 25 00 to 26 00	
4-4 rift No. 2, 15 00 to 16 00	
4-4x10 No. 1, 18 00 to 19 00	
4-4x12 No. 1, 14 00 to 15 00	
4-4x10 No. 2, 15 00 to 16 00	
4-4x12 No. 2, 14 00 to 15 00	
4-4 edge No. 3, 9 50 to 10 00	
5-4 edge No. 3, 10 50 to 11 00	
4-4x8, 10 and 12 culls or box, 8 50 to 10 00	
4-4x5-4 edge, cull or box, 8 00 to 8 50	

VIRGINIA PINE.  
4-4 flooring boards (dry and clear), 13 50 to 14 50  
4-4 flooring boards (rough), 7 75 to 8 25

SHINGLES.  
No. 1 hearts, split, car lots, 6 50 to 7 00  
No. 2 hearts, split, car lots, 5 50 to 6 00  
No. 1 saps, split, car lots, 4 75 to 5 50  
No. 2 saps, split, car lots, 4 25 to 5 00  
No. 1 sawed hearts, car lots, 6 50 to 7 00  
No. 2 sawed hearts, car lots, 5 00 to 5 50

WOOD.  
Hard, per cord, 2 75 to 3 00  
Pine, per cord, 2 75 to 3 00

STAVES.  
Red oak hoghead, prime, 36 00 to 38 00  
Red oak hoghead, culls, 22 00 to 24 00  
White oak hoghead, prime, 50 00 to 53 00  
White oak hoghead, culls, 30 00 to 32 00  
White oak heading, prime, 50 00 to 53 00  
White oak heading, culls, 26 00 to 28 00

RECEIPTS OF LUMBER, LOGS, STAVES, SHINGLES, AND RAILROAD TIES.

Article.	For the month of August.	For 8 months ending August 31, 1892.
Lumber, feet, 28,782,371		189,343,969
Logs, feet, 10,956,127		69,433,559
Staves, M., 983,664		5,276,052
Shingles, M., 4,538,600		30,087,146
Railroad ties, M., 18,250		133,890

### Charleston.

[From our own Correspondent.]

CHARLESTON, S. C., September 20.

There has been very little transpiring during the week in lumber and timber, and the general tone of the market is quiet. The principal coastwise shipments during the week have been to Baltimore, New

York and Boston, and the foreign exports to France. There has been considerable doing in the milling section, and all plants report plenty of orders. Choice dimensions of lumber rule very firm, and stocks are generally light, shipments being made with considerable dispatch. Values throughout the list rule firm, and merchantable lumber is quoted at \$14.00 to \$16.00 for city sawed, \$12.00 to \$14.00 for railroad. Square and round timber is held at \$9.00 to \$13.00 for railroad and \$8.00 to \$11.00 for raft. Dock timber is steady at \$4.50 to \$6.50 and shipping \$8.50 to \$10.50. Shingles are firm at \$5.00 to \$7.00 per thousand. Lumber freights are steady. On unsawed lumber to Philadelphia \$4.62½ is the rate, to New York \$4.75; on cross-ties fifteen cents each, basis forty-four feet in length.

EXPORTS OF LUMBER FROM CHARLESTON FROM SEPTEMBER 1, 1891, TO SEPTEMBER 10, 1892.

Exported to	1891-'92, Feet.	1892-'93, Feet.
New York.....	761,000	1,155,164
Boston.....	331,000	.....
Philadelphia.....	.....	613,000
Baltimore.....	410,000	.....
Other United States ports.....	690,000	.....
Total coastwise.....	1,537,000	2,478,164
Great Britain.....	.....	.....
Paderno.....	.....	.....
France.....	359,759	.....
West Indies.....	.....	.....
South America.....	.....	.....
North Scotland.....	.....	.....
Other foreign ports.....	.....	.....
Total foreign.....	359,759	.....
Grand total.....	1,897,759	2,478,164

#### Savannah.

[From our own Correspondent.]

SAVANNAH, GA., September 20.

There has been a fair distribution of trade in lumber circles during the week, and the market shows a better tone generally. The shipments coastwise have been larger, and the demand for South American ports has quickened. The exports of lumber and timber during the week were 2,425,000 feet of lumber and 260,000 shingles. Advices from the interior are encouraging, and in all milling districts there is a fair activity in progress. Mills generally have plenty of orders and work ahead for thirty or sixty days. In the general list of values there has been no change, and a steady tone is generally the rule. There is a light foreign demand, and all are looking for an improvement in prices in the United Kingdom and Continent. The quotations here for easy sizes are \$11.50 to \$12.00, ordinary \$12.00 to \$16.50, difficult \$14.00 to \$15.00 and flooring boards \$14.50 to \$22.00 per thousand. Lumber freights continue dull, with the offering of tonnage liberal. From this and nearby ports sail rates are nominal at \$4.25 to \$5.00 for a range including Baltimore and Portland, Me. Steamers are quoted at \$7.00 to New York, \$8.00 to Boston and Philadelphia and \$6.50 to Baltimore.

#### Pensacola.

PENSACOLA, FLA., September 19.

Everything connected with lumber and timber at this port is moving very lively, and the market has shown great activity since the commencement of the new timber year. The demand from South America is very fair and is becoming more decided in character. One large firm here has received orders during the week from River Platte for over 1,000,000 feet of lumber. There is a good inquiry from Cuba, several cargoes having been taken for that island. There is no urgent demand from Europe, but a better feeling is expected in the near future. A number of contracts are yet to be delivered for the Continent, and the rate at which they are being filled will leave very few on hand by October 1. Since the 1st September the following shipments have been made to the United Kingdom and Continent: Of lumber, 6,500,000 superficial feet; sawed timber, 6,395,000 superficial feet; hewn timber, 17,000 superficial

feet, making a total of 12,912,000 superficial feet to the Continent. The shipments to the United Kingdom were of lumber, 9,666,000 superficial feet; sawed timber, 13,331,000 superficial feet; hewn timber, 286,000 superficial feet, making a total of 23,283,000 superficial feet.

#### Mobile.

[From our own Correspondent.]

MOBILE, ALA., September 19.

The new lumber year is commencing under more favorable auspices, and the movement at present is showing up remarkably well. There is somewhat of a lull in the timber trade at present and exports continue light, the shipments for the week ending the 17th inst. being 73,616 cubic feet of hewn, and since the 1st inst. in all 163,998 cubic feet. Of sawn timber 3,842 cubic feet have left the port during the current month. The exports of lumber continue liberal and the shingle season is now at its height, all the mills being fully supplied with orders, and their capacity tend to fill them promptly. The shingle trade was never better than now, and prices are firm, with every prospect of a continuance of this prosperity for some months to come. The shipments of lumber for the week to foreign ports were 626,136 feet, and since September 1, 1892, 2,297,669 feet, against 1,366,154 feet for the corresponding period in 1890-91. Reports from the interior of this State and Mississippi are very encouraging, and many improvements throughout the milling sections are in progress. The contract for cross-ties has been let for the road to be built by the Richmond Cedar Works from their factory in Greenville, Ala., to the cedar brakes, and the work of construction will soon commence, and on the completion of the road the factory will begin operations. The mill men at Moss Point, Miss., report plenty of timber orders for lumber for foreign ports, but at very low prices. The machinery of the handle factory of Florence, Ala., is being removed to Huntsville, Ala. As to prices of lumber and timber at Mobile there is very little change from last week, and values continue steady and firm throughout the list. Hewn timber is in demand and is firm at 13 to 14 cents per cubic foot for 100-foot average and classing Bt good. Hewn oak is in light demand, contract price being 20 cents per foot. Sawn timber is dull at 11 to 11½ cents per cubic foot of 40-foot average. Logs delivered at mill are quoted at \$6.00 for short pine and \$7.00 to \$8.00 per thousand feet for large timber. Cypress 6 to 10 cents per cubic foot. No. 1 shingles are quoted at \$3.00 for drawn and \$2.00 for No. 2. Sawn 16-inch, wholesale, 50,000 and up f. o. b., best \$2.70 and pine \$2.80 per thousand.

#### Memphis.

[From our own Correspondent.]

MEMPHIS, TENN., September 20.

Business continues to more than hold its own, according to the average of the season, both in local and in shipping lines. There is a good supply of all kinds and grades of lumber, excepting dry poplar. The mills are well supplied with orders and are getting fair prices. The country mills are beginning to tire of cutting prices and selling to anyone who sends them an order.

The exchange at its last meeting decided to no longer buy rough lumber of mills that sold in this market to contractors and consumers, and so far as possible to confine their dealings to those mills which were associated with the exchange. The annual fee for associate members, country mills, etc., is only ten dollars, giving them all the privileges of the exchange, excepting that of paying the expenses. It is the only way in which the dealers here can control or direct the cut and manner of getting out lumber at these mills and prevent waste or running onto the market a supply of material that is not needed and only cumber the yards.

The associate trades—boxes, cooperage and woodworkers—are all doing a fine business and at better prices, comparatively, than the direct lumbermen.

The Young Men's Business League is making large preparations for its fall display early next month, using large quantities of rough lumber, and hoping to improve matters in trade here during the late fall and early winter thereby. The residence building is not materializing to the extent promised, but the business houses going up will bring the aggregate to at least as much as usual; in fact, for the condition of the crop and the uncertainties of a presidential year, we are doing better in all lines than there was any right to expect.

The belting and mill supply firms here of Towner & Co. and Atkins & Co. each report business as good as they have ever known it at this season of the year and that the promise for fall trade was never better. There are no changes at present in quotations; prices firm and well maintained.

BLACK WALNUT.  
1st and 2d, 1, 1½ and 2-inch.....\$75 00 70 00  
Common.....35 50 40 00  
Counter tops.....90 00 110 00

ASH.  
1st and 2d clear, 1 to 4-inch.....24 00 30 00  
Common.....12 00 14 00

CYPRESS.  
1-inch, 1st and 2d clear.....22 00 24 00  
1½, 1½ and 2-inch.....24 00 26 00  
Fencing 1x6, 16 feet.....15 00 16 00

POPLAR.  
1-inch, 1st and 2d clear.....24 00 25 00  
1½ and 2-inch, 1st and 2d clear.....26 00 28 00  
Common boards.....14 00 16 00  
Dressed, 1, 1½ & 2-in., 1st & 2d clear.....28 00 30 00  
Common dressed, 1-inch.....16 00 17 50  
Squares.....22 50 25 00

COTTONWOOD.  
1 to 3-inch mill run, culls out.....9 00 12 00  
Squares.....12 50 16 00

RED GUM.  
1st and 2d.....16 00 20 00  
Common and culls.....8 00 10 00

OAK.  
1 to 4-inch, 1st and 2d.....24 00 26 00  
Common, 1 and 2-inch.....13 00 15 00  
Quarter oak, 1-inch, 1st and 2d.....30 00 32 00  
Quarter oak, 1½-inch and up.....31 00 30 00  
White \$1 higher.

YELLOW PINE.  
1st and 2d, 1½ and 2-inch.....18 00 20 00  
Dressed.....25 00 30 00  
Flooring, 3 and 6 d and m.....17 50 20 00  
Flooring, 3 and 4 d and m.....17 50 20 00  
2d flooring.....15 00 17 50  
Heart step lumber.....27 50 30 00  
Ceiling, 1st and 2d, 1½ and 2-inch.....17 50 20 00  
Ceiling, 1st and 2d, 1 and 1½.....16 00 18 00  
Common L. o. b. Memphis.

TIMBER (LOGS).  
Car lots.....12 50 15 00  
Poplar.....6 00 10 00  
Cypress.....6 00 9 00  
Cottonwood.....3 00 4 00  
Gum.....3 00 4 50  
Oak.....6 00 12 00  
Ash.....8 00 13 00  
Black walnut.....15 00 30 00

No. 1 heart cypress, 16-inch.....3 00 4 00  
No. 1 sap, 16-inch.....2 25 3 00  
LATH.  
Poplar.....2 00 2 75  
Cypress.....2 00 2 50  
Pine.....2 00 2 00

#### Beaumont.

BEAUMONT, TEXAS, September 19.

The lumber and timber market still holds its own in this section, and indeed throughout the lumber section of Texas and Louisiana all reports are characterized by a cheerful tone and steady to strong market. In a local way the aggregate business for the week has been larger in volume, and orders from adjacent points in the State and the Northwest continue to come in very freely. There is a good demand for railroad timber and a fair trade is reported with Mexico. Prices continue very firm, and the demand, which is quite sharp at the moment, gives values a more decided tone. The shipments from this point last month were very large, and from the shape of trade so far during the current month, the volume may exceed that of August. Among the improvements in progress may be mentioned the erection of a stave factory by J. F. Davis, who manages one for the Texas Tram & Lumber Co. It will be connected with the Beaumont Lumber Co.'s plant, and will be supplied with all the newest appliances. Orders for railroad ties are plenty, and the Texas Tram & Lumber Co. has orders for 75,000 lately booked. Among the recent shipments of lumber from Sabine Pass was 260,000 feet for Tampico, Mexico, shipped by the Litcher & Moore Lumber Co. At Orange, Texas, and Lake Charles, La., there is the

same activity present, and among the important features which will develop the lumber industry is the lately incorporated railroad company, the Natchez, Alexandria & Texas Railroad, which filed articles of incorporation at Alexandria, La., recently. This road will pass through the finest pine lands of Louisiana and Texas, and the work of construction will be begun as soon as the right of way is obtained. The mills throughout the county in the vicinity of Lake Charles and Orange are all running to their full capacity, and shipments for the month will be larger than usual.

#### Chattanooga.

[From our own Correspondent.]

CHATTANOOGA, TENN., September 19.

Since our last letter there has been an increased activity in the lumber market in all branches, more particularly in white and red oak, also the chestnut or mountain oak. Northern buyers have found the oak from this section to be of superior quality; especially are furniture manufacturers anxious to secure it; consequently some very large deals in white and red oak have taken place in the last few weeks. The oak in this section is practically new to Northern buyers, and we predict a rush will be made for it as soon as its superior qualities are known more generally. The market for poplar is very fair; the same can be said of pine and hickory and gum.

Following are prices f. o. b. cars Chattanooga:

	POPLAR.	
Squares, clear.....	— \$23 00	
Saps, clear bright.....	— 15 00	
Selects and rejects.....	— 14 00	
PINE.		
All heart flooring.....	— 20 00	
1st standard flooring.....	— 15 00	
2d standard flooring.....	— 13 00	
Common flooring.....	— 11 00	
1st ceiling, standard.....	— 13 00	
2d ceiling standard.....	— 12 00	
Common standard.....	— 10 00	
1st standard W. boarding.....	— 9 00	
2d standard W. boarding.....	— 8 00	
No. 1 standard W. boarding.....	— 8 00	
No. 2 standard W. boarding.....	— 7 00	
WHITE OAK.		
1 to 4-inch, 1st and 2d.....	— 18 00	
Green, 1 and 2-inch.....	— 15 00	
RED OAK.		
1 to 4-inch, 1st and 2d.....	— 14 00	
Common, 1 and 2-inch.....	— 12 00	
SHINGLES.		
No. 1 heart, cypress.....	— 2 50	
No. 1 heart, pine.....	— 2 25	

#### Industrial Development in South Baltimore.

The South Baltimore Harbor & Improvement Co., of Anne Arundel county, Md., operates an electric railroad from the city proper to the heart of its property, hereby affording those residing in this section easy access and the convenience and facilities of cheap travel to and from the city.

A successful effort has been made to locate manufacturing enterprises. A large sugar refinery that since its operation has been found inadequate to supply its demands has been equipped with the latest improved machinery, and by the first of the year will produce an immense output. A barrel factory, Ryan & McDonald's Novelty Machine Works, a bolt and nut factory and an extensive car works plant are some of the industries that are in active operation. A rolling mill that will give employment to a large force of skilled labor, a forge and a wooden mill are also under construction.

There is every indication of an advance of values, and lots purchased will assuredly have an appreciable rise above their present cost. The company has determined on a sale that is to take place about the middle of October, due notice of which will be given, when lots will be offered at figures that will enable those who purchase to realize quite a large margin of profit. To this end the company will not encourage high prices to scare the investor, but rather knock down their offerings so as to make their plan a co-operative one, inviting co-workers in the development of their town-site. Further information can be obtained by addressing the president, Mr. Wm. S. Rayner, No. 8 East Lexington street, Baltimore.



## IRON MARKETS.

## Philadelphia.

[From our own Correspondent.]

PHILADELPHIA, September 21.

With the exception of an active demand for steel billets and slabs and structural material for prompt delivery, the iron market has been quiet during the past week. Consumers of pig iron continue to show a conservatism when it comes to purchasing any material beyond what they require to meet their pressing wants, and the firmer stand taken by manufacturers in regard to prices has in a measure temporarily restricted buying in some quarters. Buyers have all along been covering their requirements to a certain extent by securing supplies at concessions from quoted rates, and, as furnacemen have during the past few weeks restrained from forcing material on the market, actual sales have slightly fallen in number and in amount of iron taken. In the opinion of furnacemen and brokers the conditions at the present time are more favorable than at any previous time during the year, the output being less, the consumption continuing large and stocks at the furnaces decreasing. While these facts are of themselves sufficient to give an upward turn to the market, there are certain other factors connected with general business that tend to have a restraining influence on the iron market, and render any increase in prices in the near future uncertain. In the meantime both producers and consumers are keeping a close watch on the market for any indications likely to affect prevailing conditions one way or the other. There has been some increased inquiry for Southern foundry grades, but no large sales have been made. Quotations for leading brands in this market are as follows, orders taken for deliveries at Harrisburg and vicinity being at concessions of twenty-five cents to fifty cents per ton:

Standard Pa. No. 1	.....	\$15 00	15 50
" No. 2	.....	14 00	14 50
" Forge	.....	13 00	13 50
Southern coke No. 1 foundry	.....	14 25	15 00
" No. 2	.....	13 50	14 00
" gray forge	.....	12 50	13 25

## Pittsburg.

[From our own Correspondent.]

PITTSBURG, September 21.

Nothing has transpired in the local market to produce an improvement. Generally there is a better feeling, but transactions are like angels' visits, and the prices are at the same dead water level. Mill operations are not making the situation any more solid than it was before, and the idea advanced months ago that we will have to accustom ourselves to the European standard of values is gaining ground. The general iron market is practically without the life that it should display, while in pig it is without any life whatever, and the little business that has been done for weeks is so insignificant that it is not given consideration. This condition of indifference is intensified when it is remembered that whatever has been done was forced. There has been no normal business for months, and most of the brokers and furnacemen have done absolutely nothing. With the majority it was simply a case of playing for nothing or working for nothing, and the former was chosen.

There are some inquiries for Bessemer, while the sale for forge and mill irons is about what it was—a question of exchanging two cents worth of metal for \$1. There has been no profit anywhere, notwithstanding the desperate efforts that were made to infuse some life into affairs. As a matter of strict fact there has been no actual business in pig iron of any line for almost a year. With the local concerns, big and little, producing and consuming their own pig, the producers outside of this district have been shut out entirely in spite of their willingness to take almost any price to get in. A further disadvantage they had to

contend with was the excessive freights, which cut off still more of their profits, or rather their own money. The usual small sales of forge iron were made, but beyond this there was nothing. Prices hold practically to the same plane, and may be reproduced.

Gray forge	.....	\$12 00	12 75
Mill iron	.....	12 50	13 25
Foundry No. 1	.....	14 00	14 50
" No. 2	.....	13 40	13 90
Bessemer	.....	13 80	14 50

## Wheeling.

[From our own Correspondent.]

WHEELING, W. VA., September 21.

There are very few changes in the list of conditions reported as surrounding the Wheeling pig iron market last week. Demand is still fair and above the average, but prices are low, and, if anything, showing a downward tendency. Affairs seem to be generally mixed, and buyers and sellers are both taking extraordinary precautions against a change in the market either upward or downward. Things seem to be standing in a sort of a state of unstable equilibrium, and it is generally believed that the market is well prepared to answer any impulse that is given. Although the most prominent signs point to continued activity, there is an undercurrent in the opposite direction that is making itself felt.

Mill irons are still the best sellers in the market, as they always are when the finishing mills are in operation. For this line of goods it is almost safe to predict a continued active demand. The finishers seem to have all they can do, and are looking business so well forward that there cannot be a slump for some time to come. The demand for muck bar, in the face of the fact that soft steel can be had for considerably less money, shows the tendency of things, and makes it plain that mill iron, if prices are not cut too low, will be a valuable commodity and will find ready sale for a good while yet. Considerable Southern mill iron has been sold here lately, and negotiations are pending for the purchase of several large blocks at this time.

Bessemer pig is still offered at less than \$14.00, and seems to be more or less of a drag on the market even at that. The steel mills generally contracted as far back as the middle of July for a good portion of the Bessemer pig they would use up to the end of the year, and most of them have large stocks either in their yards or lying at the furnaces awaiting their orders. Most of the recent sales of soft steel have been made with the view of securing the iron to be used in its production at present prices or lower, so it will be seen that no advance in Bessemer can well be enforced before the first of the year. In foundry irons the demand stands about on the legitimate, with prospects good for a continuance of these conditions. The representative of one of the valley furnaces said to me yesterday that Southern foundry irons were hurting him considerably and that the Southerners were able to deliver iron of a quality within a fraction of as good as his own at from twenty-five to fifty cents a ton below his best quotations. As a result of this Southern foundry iron is beginning to cut quite a figure here.

Prices are quoted as follows:

Gray forge	.....	\$12 00	12 75
Good tough Southern mill iron	.....	12 25	13 00
No. 1 Northern foundry	.....	14 25	15 00
No. 2	.....	13 50	14 00
No. 2 Southern	.....	13 25	13 75
Bessemer	.....	13 75	14 50

## Chicago.

CHICAGO, September 17.

The buying movement now in progress is of reasonable proportions and fully in line with that common to this season of the year. During the past week there have been some good-sized sales closed, these being divided between Northern and Southern cokes. On the latter class of metal prices are somewhat more firm than has been the case during the past sixty days,

and furnaces in the Southern district are now declining business at figures which were readily accepted last month. This action is owing to the fact that the leading companies have contracted a large amount of business and are in no pressing need of new orders. Consumers consider this attitude as simply temporary and are unwilling to believe that any stiffening in prices can be maintained. The most encouraging feature of the market is the continued heavy consumption in every department of business.

There is practically no business going on in Lake Superior charcoals outside of car lots and sales of 50 or 100 tons for prompt shipment. Ohio soft irons are in moderate demand; on these considerable variation of price exists on account of the choice between brands.

We quote for cash f. o. b. cars Chicago:

Southern coke No. 1 foundry	.....	\$14 25	\$14 75
" No. 2 foundry	.....	13 50	13 85
Southern coke No. 1 soft	.....	13 50	13 85
" No. 2 soft	.....	12 50	13 25
Ohio silvers	.....	17 00	17 50
" No. 1	.....	16 00	16 50
" strong softeners No. 1	.....	16 50	17 00
" No. 2	.....	15 50	16 00
Lake Superior charcoals Nos. 1 & 2	.....	16 50	17 50
Tennessee charcoal No. 1	.....	16 50	17 50
Standard Alabama car wheel	.....	20 00	22 00

ROGERS, BROWN &amp; MERWIN.

## Cincinnati.

CINCINNATI, September 17.

Business has been a little more quiet the past week, though the aggregate tonnage of sales is large and shipments even larger. Nearly every Southern furnace is steadily decreasing in its stocks, and the same is true of many Northern furnaces. This condition of things has led certain sellers to advance their prices fifteen to twenty-five cents per ton, but few sales are reported at the advance. The general situation is one that would warrant hopeful views of the future were it not for the increasing seriousness of the cholera question and the steady hardening of money. These influences tend to restrict the feeling that was beginning to show itself in many quarters of broadening out operations. The facts clearly show that the position we have taken in this report for months past, that actual consumption was in excess of production, was a correct view. As soon as a little confidence is felt in values manufacturers and dealers of finished forms of iron begin to stock up, and the result is to draw on the stocks that have been carried in first hands. The latter at no time have exceeded about a month's supply and are now decreasing. There is, however, a very conservative feeling on all hands, and it may be quite as healthful for the iron trade to run for awhile along at a low basis of values now current. Influences that no one can control will determine how long that period will be.

We quote for cash f. o. b. cars Cincinnati:

Southern coke No. 1 foundry	.....	\$13 25	\$13 75
" No. 2 foundry	.....	12 25	12 75
" No. 1 soft	.....	12 25	12 75
" charcoal No. 1	.....	19 00	20 00
Tennessee charcoal No. 1	.....	16 00	16 50
Jackson Co. stone coal No. 1	.....	16 00	16 50
Southern coke gray forge	.....	11 25	11 75
" mottled	.....	10 75	11 25
Standard Alabama car wheel	.....	18 00	19 00
Tennessee car wheel	.....	17 00	17 50
Lake Superior car wheel	.....	17 00	18 00

ROGERS, BROWN &amp; CO.

## Louisville.

LOUISVILLE, September 17.

The buying has been in small lots, running in most cases to carload orders. In one instance, however, contract for 3,000 tons was made at prices that had existed for some time. The demand for silver grays has been in excess of other grades, and they have ruled proportionately higher. Owing to heavy buying of mill irons in the East, furnaces have advanced price of gray forge to \$8.50 Birmingham, but there has not been the same improvement in other grades. It is felt, however, that shortly they also will be advanced twenty-five cents a ton. Offers for as much as several thousand tons of No. 2 foundry have been made basis \$9.25 Birmingham,

but were declined, and \$9.50 for No. 2 foundry is the inside price, and the largest companies are not disposed to sell for long deliveries.

Car-wheel irons have been fairly active, and, owing to the blowing out of some furnaces, those in blast anticipate increased demand for iron on hand and that it will be followed by an advance in price.

We quote for cash f. o. b. cars Louisville:

Southern coke No. 1 foundry	.....	\$13 25	\$13 75
" No. 2	.....	12 25	12 75
" No. 3	.....	11 50	11 75
" gray forge	.....	11 00	11 50
" charcoal No. 1 foundry	.....	15 00	16 00
" car wheel	.....	17 00	18 00

GEO. H. HULL &amp; CO.

## St. Louis.

ST. LOUIS, September 17.

There is a little more activity to be noticed in this market.

Buyers, however, still look for lower prices, and are only buying in small lots for early delivery. They seem to think there is no limit for low prices on iron, and laugh when told that there is even a likelihood of an advance.

We think that the furnaces now out, and those that we hear of going out shortly, with the decrease of stocks reported in the South, will at last have the effect of stiffening the market a little if it does not raise prices.

We quote for cash f. o. b. cars St. Louis:

Southern coke No. 1	.....	\$13 75	\$14 25
" No. 2	.....	12 75	13 25
" No. 3	.....	12 50	12 75
" gray forge	.....	11 75	12 00
" charcoal No. 1	.....	15 50	16 00
" No. 2	.....	15 00	15 50
Missouri " No. 1	.....	14 50	15 00
" No. 2	.....	14 00	14 50
Ohio softeners	.....	16 50	17 00
Lake Superior car wheel	.....	17 50	18 25
Southern " " "	.....	18 25	18 75
Frick's Connellsville foundry coke	.....	—	5 65

ROGERS, BROWN &amp; MEACHAM.

## Chattanooga.

[From our own Correspondent.]

CHATTANOOGA, TENN., September 18.

The iron market has not materially changed since our last report. Trade on bar iron is fair, with an increasing demand. Furnaces in this section that are not running are closed for repairs. Foundries are generally running full of orders, and the outlook on iron is better.

We quote bar iron 1.50 to 1.58-60 cents, half extras, at mill; 1.60 to 1.65 delivered; from stores, 1.75-80 cents, full extras. We quote pig iron at unchanged prices as follows:

Southern coke No. 1 foundry	.....	\$12 00	12 50
" No. 2	.....	10 75	11 25
" No. 3	.....	10 50	10 75
" gray forge	.....	10 00	10 25
" No. 1 soft	.....	10 75	—
" No. 2	.....	10 25	—

Bids for the improvement of Savannah (Ga.) river and harbor, in accordance with the recent act of Congress, were opened on the 17th. The Atlantic Contracting Co., of New York, made the lowest bid for the total work, \$3,011,500. All bids have been forwarded to Washington.

The East Tennessee Iron & Coal Co. will hold its annual meeting at Knoxville on October 12th.

The Citico Furnace Co. is relining and generally repairing Citico furnace at Chattanooga, Tenn.

## Where to Locate New Factories

Is the title of a 150-page pamphlet recently published by the passenger department of the Illinois Central Railroad, and should be read by every mechanic, capitalist and manufacturer. It describes in detail the manufacturing advantages of the principal cities and towns on the line of the Southern Division of the Illinois Central and the Louisville, New Orleans & Texas Railroads, and indicates the character and amount of substantial aid each city or town is willing to contribute. It furnishes conclusive proof that the South possesses advantages for the establishment of every kind of factory working wool, cotton, wood or clay. For a free copy of this illustrated pamphlet address Mr. J. F. Merry, Assistant General Passenger Agent I. C. R. R., Manchester, Iowa.

# CONSTRUCTION DEPARTMENT.

**WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.**

\* Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

## In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

## ALABAMA.

Anniston—Tannery.—Allen Montgomery, of Talladega, intends to erect a tannery at Anniston.

Bessemer—Brick Works.—The Gere Brick Co. has put additional machinery in its brick works.

Birmingham—Stove Works.—The Baxter Stove Works have resumed operations.

Crawdale—Electric-light Plant.—The Coaldale Brick & Tile Co. has added an electric-light plant to its works.

Garland—Grist Mill and Gin.—Nab Nicholson has built a gin and will put in a grist mill.

Greenville—Cotton Gin.—Martin & Porter have put in new machinery at their cotton gin.

Huntsville—Handle and Spoke Factory.—H. W. Russell and associates will erect the spoke and handle factory recently reported. Work on it will commence at once.

Mobile—Steamboat Line.—H. L. McConnell, W. L. Murdoch and J. C. Cowdon, of Birmingham, have incorporated the Mobile Fruit & Trading Co. for the purpose of operating a steamboat line between Mobile and South American ports.

Montgomery—Electric-power Plant.—The West End & Riverside Electric Street Railway has let contract for entire equipment for its plant.

Piedmont—Water Works.—The city council has passed an ordinance granting a franchise for the construction of water works to R. S. Perry, George D. Harris and others.

## ARKANSAS.

Buckner—Saw Mill.—Strange & Buckner are putting new machinery in their saw mill.

Evans—Saw Mill.—The Keystone Mills has been incorporated with a capital stock of \$50,000. R. L. Sharp is president; W. S. King, vice-president; W. H. Starr, secretary, and W. S. King, treasurer. Purpose, to operate a saw mill.

Harrison—Publishing Company.—A \$1,000 company has been organized to publish the *Bonne River*. A. C. Hull is president.

Hot Springs—Chlorination Works.—Maurice Barnett is building chlorination works on Bear river, near Hot Springs.

Little Rock—Gas Works.—The Pulaski Gas Light Co. has completed arrangements for its proposed extensions of mains. The work will cost over \$50,000.

Little Rock—Electric-light Plant.—The Board of Public Affairs has asked the city council for \$50,000 to enlarge and improve the city electric-light plant.

Magnolia—Saw Mill.—Sewell's saw mill, reported in this issue as burned, will probably be rebuilt.

Mineral Springs—Flour Mill.—A roller process flour mill of twenty-five barrels capacity will be built at Mineral Springs. Messrs. Adair & Mitchell, of Little Rock, will supply the machinery.

Poplar Bluff—Stave Mill.—H. Alfrey will erect a stave mill.

Tuttman—Flour Mill.—It is reported that a company is being organized to erect a \$10,000 roller process flour mill.

## FLORIDA.

Brooksville—Grist and Rice Mill.—A. T. Sheets will add a grist and rice mill to his box factory.

Candler—Packing-house.—F. Moses will erect a packing-house.

Hawthorn—Phosphate Plant.—The Peninsular Phosphate Co., a newly-organized concern, has purchased W. S. Moore's mines at Hawthorn, and will develop them. A new mining plant will be put in at once.

Lakeland—Phosphate Plant.—The Land Pebble Phosphate Co. intends to put in another dryer.

Parker—Canning Factory.—A canning factory will be established in Parker.

## GEORGIA.

Albany—Cotton Mill.—The Alpha Cotton Factory Co. has been incorporated to erect a cotton mill. Its capital stock is \$35,000; Messrs. Cobb and Erwin, incorporators.

Clarksville—Novelty Works.—G. R. Church is erecting novelty works.\*

Macon—Mercantile Company.—W. A. Woody, S. H. Pearson and E. T. Quinn have incorporated as "W. A. Woody & Co.," with a capital stock of \$50,000.

Macon—Publishing Company.—E. B. Waters, Thomas W. Loyless, L. J. Harris and J. L. Hallfield have incorporated the Telegram Publishing Co. with a capital stock of \$10,000. The company's purpose is to publish an evening newspaper.

Marietta—Bridge.—Sealed bids will be received until October 10 for labor and material for constructing a bridge over Rottomwood creek. Address J. Stone, ordinary.

Marietta—Chair Factory.—The Marietta Manufacturing Co. will rebuild its chair factory reported in this issue as burned.

Savannah—Rubber Factory.—It is reported that J. G. Carter has organized a company to establish a factory for the manufacture of rubber from cottonseed oil.

Thomaston—Planing Mill.—A planing mill has been erected. J. C. Thompson can give information.

## KENTUCKY.

Ashland—Lumber Mill.—Henry Hermann will improve his lumber mill.

Augusta—Lumber Mills.—Messrs. Sherman & Brinson will add considerable machinery to their lumber mills.

Dalton—Cotton Mill.—The Crown Cotton Mills will put in additional machinery.

Danville.—E. B. Thiele, W. B. Thomas, J. A. Quisenberry and J. A. Cheek have incorporated the Thiele-Thomas Co. with a capital stock of \$10,000.

Fern Creek—Co-operative Company.—J. C. Howes, P. L. Alley, Peter Baker and others have incorporated a co-operative store company with a capital stock of \$5,000.

Knottsville—Flour Mill.—W. S. Hazel & Co. will put in a new roller flour mill of fifty barrels capacity. John Seyfers, of Henderson, has the contract.

Lexington—Publishing Company.—J. S. Hathaway has organized the Intelligence Publishing Co. with a capital stock of \$10,000. Mr. Hathaway is president.

Ludlow Water Works.—The city will construct a system of water works. A. V. C. Grant, clerk. (See adv.)

Newport—Manufacturing Fire Mats.—George H. Tennell, Benjamin L. Fletcher and George Leonard have incorporated the Fletcher Fire Mat Co. for the purpose of manufacturing and dealing in fire mats and material for same. Their capital is \$5,000.

Newtown—Flour Mill.—J. R. Johnson will equip his flour mill with roller process machinery; contract has been let.

Paris—Steam Laundry.—I. H. Butler has equipped the Bourbon Steam Laundry with new machinery, and is now operating same.

Pewee Valley—Manufacturing Wine, etc.—The Pewee Valley Wine Co. has been incorporated for the purpose of manufacturing brandies and wines. Its capital stock is \$25,000.

## LOUISIANA.

Lake Charles—Woodworking Factory.—Wm. Tompkins has erected a woodworking factory.

Louisiana—Sugar Mill.—Messrs. Kent & Weill will erect a 3-roller double-gear sugar mill on their plantation on Bayou Lafourche. The H. Dudley Coleman Machinery Co., of New Orleans, will furnish the machinery.

New Orleans—Steamboat Line.—The Independent Red River Packet Co. has been organized to operate a steamboat line. W. T. Boardman is president; John J. Grayard, vice-president, and J. P. Williams, secretary.

New Orleans—Grain Elevators.—It is said that the Louisville & Nashville Railroad Co. (office, Louisville, Ky.) is negotiating for the erection of grain elevators in New Orleans.

New Orleans—Packet Line.—The New Orleans & Washington Packet Co. has been incorporated

to conduct a steamboat line; capital stock \$1,000. The incorporators are Alex. P. Tronsdale, J. H. Menge, William Renaudin and others.

New Orleans—Publishing Company.—Gustave Pitot, Louis A. Richards, Edw. J. Reiss and others have incorporated the Down Town Herald Publishing Co. for publishing purposes.

## MARYLAND.

Baltimore—Brewery.—John Sommerfield, John B. Biemiller, J. Leland Hanna and others have incorporated the Sommerfield Brewing Co. for the purpose of conducting a brewery. Its capital stock is \$800,000.

Baltimore—Underwear Factory.—Henry S. Williar, Robert W. Rice, William H. Towles, James E. Fossett and Reinhard J. Wilkins have incorporated the W. H. Towles Manufacturing Co. for the purpose of manufacturing shirts, drawers, etc. The capital stock is placed at \$15,000.

Baltimore—Cold-storage Plant.—The Baltimore Cold Storage & Warehouse Co. will expend \$35,000 for the further equipment and improvement of its plant.

Bel-Air—Marble Quarries.—The Cambria Marble Co. has been incorporated with a capital stock of \$100,000 for the purpose of opening marble quarries near Cambria which it has purchased. John Briscoe is president; James C. Young, vice-president; C. A. Hollingsworth, secretary, and C. C. Rouse, treasurer.

Bel-Air—Manufacturing.—A certificate of incorporation of the Whiting Novelty Manufacturing Co., of Harford county, has been filed at Annapolis.

Brooklyn—Electric-power Plant.—The Curtis Bay Electric Railway will put in its power plant a new 150 horse-power engine and boiler and another electric generator.

Ellicott City—Flour Mill.—The C. A. Gambrell Manufacturing Co. will erect additional buildings to its mill. Work on same has commenced.

Salisbury—Ice Factory.—The Salisbury Ice Manufacturing Co. will double the capacity of its factory.

Sparrow's Point—Rail Mill.—The Maryland Steel Co. is replacing its small engines with dynamos.

Sparrow's Point.—The Maryland Steel Co. has put in a 42-inch drill press.

Washington, D. C.—Lumber Mills.—W. J. Moodie, Frank M. Evans, A. L. Merriam, Raymond K. Cooke and L. W. Habercorn are the incorporators of the Albemarle Lumber Co., recently reported; capital stock \$60,000.

## MISSISSIPPI.

Meridian—Cotton Compress.—Capitalists of Meridian intend to erect a cotton compress, and have commenced work on same.

Natchez—Cotton Mill.—New machinery will be added to the Natchez Cotton Mills Co.'s plant.

Vicksburg—Levee Company.—The Safety Levee Co. was incorporated recently and has organized with C. E. Wright as president; E. Platt, secretary, and J. P. Roach, treasurer. Its purpose is to manufacture and deal in Wright's improvement for constructing dams and levees; capital stock \$1,000,000.

Waynesboro—Grist Mill and Gin.—J. J. Golden may put in a grist mill and cotton gin.

Waynesboro—Hub and Spoke Factory.—Messrs. Wetherbee & Huggins will add a spoke and hub factory to their plant.

Waynesboro—Saw Mill.—Samuel West has put in a large mill to saw for the export trade.

Waynesboro—Saw Mill.—John W. Woodward will build a saw mill.

## NORTH CAROLINA.

Asheville—Cotton Mill.—C. E. Graham is reported as to build a weave mill.

Catawba—Mill.—John Moore has purchased site and will erect a mill.

Charlotte—Cotton Mill.—Moses H. Cane, of New York city, is looking for a location for a finishing mill. He and others have organized a stock company to erect it.

Greensboro—Cotton Mill.—New machinery is being put in the Crown Mills.

Jonesboro—Cotton Mill.—The Jonesboro Cotton Mill Co. will erect a new cotton mill.

Shiloh—Oil Refinery.—E. V. Zoeller intends erecting an oil refinery.

Wilmington—Electric-light Plant.—The Wilmington Electric Light Co. is enlarging its plant considerably and is putting in a 150 horse-power engine and two new dynamos.

Wilmington—Veneer Factory.—T. E. Wallace and Joseph M. King have erected a factory for the manufacture of a patent basket invented by Mr. King. Operations will be conducted under the name of the Standard Veneer & Package Co., and all kinds of veneer goods will be made, em-

ploying twenty-eight persons; daily capacity for baskets 15,000.

Winston—Tobacco Factory.—Walker Bros. will build a tobacco factory. Contract for its erection has been let.

## SOUTH CAROLINA.

Charleston—Fibre Factory.—The Southern Fibre Co. has been organized by the election of C. F. Pankin, president, and Thomas J. Price, secretary and treasurer. The concern intends to establish a plant for preparing Southern moss by a new decoration process.

Cheraw—Brick Works.—C. S. Lynch has put additional machinery in his brick works.

Clover—Saw Mill.—Smith & Jackson have erected a saw mill.

Columbia—Electric-power Plant.—The Columbia Electric Street Railroad Co. has let contract for its entire plant.

Darlington—Electric-light and Power Plant.—J. J. Ward, E. Keith Dargan and J. C. Wilcox have incorporated the Darlington Light & Power Co. for the purpose of operating electrical apparatus of all kinds. The capital stock is placed at \$10,000.

Darlington—Tobacco Factory.—A charter has been granted to the Darlington Tobacco Co., with a capital stock of \$100,000, for the purpose of manufacturing tobacco. The incorporators are J. J. Ward, Paul Whipple, C. S. McCullough and W. F. Dargan. Mr. Ward is president and treasurer, and L. E. Williamson, secretary.

Rock Hill—Cotton Mill.—The Rock Hill Cotton Factory Co. intends to put in additional looms.\*

## TENNESSEE.

Chattanooga—Adamant Works.—J. F. Baxter will organize a stock company for the purpose of erecting adamant works to cost \$15,000 with a daily capacity of 300 barrels.

Chattanooga.—Snodgrass & Fields will rebuild their saw mill.

Chattanooga—Sausage Factory.—John Shamoto-tulski has erected a sausage factory at a cost of \$15,000. When in full operation it has a daily capacity of 10,000 pounds.

Chattanooga—Carriage Factory.—A. E. Erwin, representing an Ashland (Ohio) company, has been in conference with the president of the Chamber of Commerce relative to the removal of an Ashland carriage factory to Chattanooga.

Chicksville—Coffin Factory.—The erection of a coffin factory is talked of; no names mentioned in connection with the project.

Harriman—Lime Works.—Messrs. Hawks & Kramer are building lime works near Harriman.

Harriman—Rolling Mill.—James McCoy intends to construct a muck bar mill.

Hill City.—T. D. Young, B. F. Small, G. F. Young, T. K. Young and W. D. Henry have incorporated the Hill City Grocery Co. with a capital stock of \$30,000.

Jackson—Creamery.—The Jackson Creamery Co. has been incorporated with a capital of \$5,000 for the purpose of establishing a creamery. J. W. N. Burkett is president; T. C. Long, vice-president, and K. S. Fletcher, secretary.

Knoxville—Canning and Evaporating Factory.—J. S. Robbins intends to erect a canning factory and establishment for evaporating fruits and vegetables.\*

Knoxville—Letter-box Factory.—Messrs. Steele & McMillan, of Knoxville, and John Faw, of Bristol, mentioned last week as to organize a letter-box manufacturing company, have obtained charter under the name of the House-Door Export Box Co. with a capital stock of \$10,000. Arrangements for the manufacture of the patent will be made immediately.

Memphis—Lumber Plant.—M. H. Coover & Co. will enlarge their plant and put in a dynamo to operate it by electricity.

Morell's Mill—Woolen Mill.—A woolen mill will be erected by a company just organized.

Nashville.—The Union Stockyards Co. will increase its capital stock from \$170,000 to \$270,000.

Nashville—Abattoir and Packing-house.—John Cudaby, of Chicago, Ill., has purchased the Cunningham tannery for \$35,000 and intends to use same as a site for the erection of a \$500,000 packing-house and abattoir to be built at once.

Nashville—Electrical Works.—E. W. Powers, G. A. Drake, Andrew Dunn, H. F. Davis and George Cowen, all of New York, have incorporated the Illinois Electrical Signal Co. to manufacture and sell electric appliances.

Newport—Tannery.—Messrs. England & Bryan, of Philadelphia, Pa., will erect a tannery at Newport to employ 200 men when completed. Work on it will soon commence.

South Pittsburg—Stove Works.—The bondholders of the Harvest Stove Foundry have purchased the plant and will reorganize the company so that the works can be started.



## TEXAS.

Corpus Christi—Artesian Wells.—The Neuces and Rio Grande Live Stock Association will expend \$10,000 in boring for artesian water.

Calaveras—Brick Works.—The Calaveras Brick Works, recently reported as chartered, will operate the plant formerly owned by Frank Taylor. New machinery will likely be added.

Dallas—Navigation Company.—James Huey, F. M. Cockrell, Philip Sangeer, C. A. Keating, J. P. Murphy and others have incorporated the Trinity Navigation Co. with a capital stock of \$200,000.

Denton—Cottonseed-oil Mill.—The Denton Cotton Oil Co. has completed its mill and put it in operation. Its cost was about \$50,000.

Fort McKavett—Canning Plant.—Wm. L. Black and associates are erecting a beef canning plant. Will operate as the Range Meat Canning Co.

Galveston—Manufacturing Candies, etc.—P. A. Lang, J. Markwitz, J. Weinberger, F. Cannon and H. Kempner have incorporated the Galveston Fruit Co. with a capital stock of \$100,000. Their purpose is to manufacture candies, canned goods, preserves and confectionery.

Graham—Flour Mill.—Messrs. McDonald, Ellis & Co. will erect a roller process flour mill of fifty barrels capacity. Contract is let.

Greenville—Water Works.—The Greenville Water Works Co. will expend \$5,000 in improvements to its works.

Houston—Cotton-tie Works.—H. G. Lidstone, secretary of the Houston Commercial Club, writes us that the erection of the cotton-tie works mentioned last week is assured.

Houston—Jelly Factory.—A New Orleans (La.) party will establish a jelly factory. Information furnished by secretary to Commercial Club.

Houston—Cotton Gin and Pickery.—Messrs. H. B. Davis & Co. are putting additional machinery in their cotton gin and pickery.

Houston—H. F. Ring, B. F. Weems and A. F. Sittig have incorporated the Bay Ridge Park Co. with a capital stock of \$20,000.

Houston—Car Works.—O. M. Carter, president of the Omaha & South Texas Land Co., has closed a contract with capitalists for the erection of car works at Houston Heights. Work on the erection of the necessary buildings is to commence at once, and they will cost about \$15,000. A capital of \$350,000 is to be employed in operating the plant.

Laredo—Sewerage.—C. Delafield, of New York, is estimating the cost of a system of sewerage for the city. Mayor McLane will give information.

Lott—Cotton Gin.—H. M. Dickson & Sons will rebuild their cotton gin, reported in this issue as burned.

Menardville—Mill, etc.—L. P. Sicker, J. C. Petmucky and J. M. Meers have incorporated the Mavil Mill & Improvement Co. with a capital stock of \$5,000.

Mexia—Publishing Company.—The Banner Publishing Co. has been organized to publish a newspaper. T. G. Locke is business manager.

San Antonio—Flour Mill.—Messrs. D. J. Geddes & Sons' flour mill is completed and in operation. It is a roller process one, and cost about \$16,000. Its capacity is 100 barrels daily.

Uvalde—Asphaltum Beds.—A syndicate is developing asphaltum deposits on 30,000 acres of land in Uvalde county.

## VIRGINIA.

Alexandria—Manufacturing.—L. J. McDonegle, of Kansas, has been investigating at Alexandria with a view of establishing a factory to employ 500 hands.

Buena Vista—Wagon Works.—The Wise Wagon Works has changed its name to the Buena Vista Wagon Works.

Cana—Saw Mill.—Wisler & Sons have erected a saw mill.

Christiansburg—Water Works.—The construction of a water works system is contemplated. The mayor can probably inform.

Crimora Station—Furnace.—It is reported that Harman & Flanagan will erect a furnace for converting manganese into spiegle.

Graham—Sash and Blind Factory.—J. B. Grever has purchased the N. Hockman Manufacturing Co.'s sash and blind factory.

Richmond—Planing Mill.—Thomas Stagg will rebuild his planing mill, reported in this issue as burned.

Richmond—Gas Plant.—A resolution is to be introduced in the city council appropriating \$25,000 for the erection of a water gas plant. The mayor can give information.

Ringgold—Saw and Flouring Mill.—P. B. Farmer has purchased site and will erect a saw and flouring mill at a cost of about \$10,000.

Roanoke—Clothing Factory.—A pants, overhalls and drawers factory will be established at Sibert's Valley. C. B. Sibert will be the manager.

Roanoke—Mineral Wool Plant.—The Roanoke Mineral Wool Co. will double the capacity of its plant.

Roanoke—Electric-light Plant.—The city council

invites proposals until October 16 for lighting Roanoke with not less than fifty nor more than 100 arc lights of 2,000 candle-power each, etc. J. E. Hough, chairman light committee.

Salem—Planing Mill.—J. J. Lankford has leased and will operate the Fitzgerald planing mill.

Stanley—Flour Mill.—The establishment of a 50-barrel roller process flour mill is being negotiated for by the Stanley Furnace & Land Co.

Stanton—Coal Mines.—W. G. Kinney and Harry Wegner will develop the Dora coal mines.

## WEST VIRGINIA.

Addison—Telephone Line.—C. P. Dorr, H. C. Thurmond and L. A. Armentrout, of Addison, and A. S. McClung, of Charleston, and Richard Shelton, of Lizemore, have incorporated the Addison Telephone Co. with an authorized capital stock of \$10,000.

Beverly—Saw Mill.—A. S. Wormelsdorf has erected a saw mill.

Charleston—Mining.—The Baltimore Mining Co. has been incorporated with a capital stock of \$1,000,000 for mining purposes.

Charleston—Wagon Works.—The Star Wagon Co., lately reported as incorporated, has works in operation. W. R. Dudley is manager.

Hartford City—Towboat Company.—Daniel L. Thomas and others, of Pomeroy, Ohio; Charles Clifford, of Hartford City, and others have incorporated the Jessie Towboat Co. with a capital of \$9,000.

Kanawha City—Nail and Wire Works.—The Columbian Barb Wire & Nail Works, recently reported as incorporated, intends erecting a barb wire and nail works plant in Kanawha City. Thomas Taggart, of Indianapolis, Ind., is president of the company. Work on the buildings will commence at once.

Lewisburg—Saw Mills.—Albert C. H. Holy and F. Nemegyer & Son will build two saw mills.

Moses Fork—Coal Mines.—The Wells Branch Coal Co. has been chartered for coal mining purposes. The incorporators are W. D. Janney, of Ceredo; Joseph S. Miller, of Kenova; W. W. Coe, of Roanoke; William J. Janney, of Baltimore, Md.; and Samuel Costner, of Philadelphia, Pa.; capital \$15,000, with an authorized capital of \$100,000.

Point Pleasant—Furniture Factory.—The Furniture Manufacturing Co., reported last week as incorporated, has a furniture factory ready for operation.

Ryan—Saw Mill.—J. B. Coon & Son have started a saw mill.

Spencer—Planing mill.—M. D. Hall will erect a planing mill.

Welch—Saw Mill.—J. C. Miller has put a planer in his saw mill.

## BURNED.

Edenton, N. C.—The Branning Lumber Co.'s saw and planing mill.

Hephzibah, Ga.—S. G. Story & Sons' cotton gin.

Industry, Texas.—F. Beyer's cotton gin.

Jordan, S. C.—J. J. Mitchum's cotton gin and grist mill.

Lott, Texas.—H. M. Dickson & Sons' cotton gin.

Magnolia, Ark.—Sewell's saw mill.

Marietta, Ga.—The Marietta Manufacturing Co.'s chair factory; loss \$15,000.

Maxton, N. C.—A. J. Cottingham's dry-kiln.

Mount Vernon, Ky.—Atherton's stove mill on Brush creek.

Richmond, Va.—Thomas Stagg's planing mill; loss \$10,000.

Runge, Texas.—Schane Bros.' cotton gin; loss \$10,000.

## BUILDING NOTES.

Atlanta, Ga.—Church.—A spire about 200 feet high, to cost about \$5,000 and to contain a set of chimes, will be built at St. Philip's Church.

Atlanta, Ga.—G. L. Norman is architect of the four-story brick and stone building for the Southern Bell Telephone Co., noted in last issue.

Augusta, Ga.—Lewis Goodrich will prepare plans for a four-story business building for Mr. Craig. Leroy Miller will also erect a four-story building.

Baltimore, Md.—Church.—Benjamin B. Owens has prepared plans for an edifice 50x75 feet for the Harlem Park Methodist Episcopal Church.

Baltimore, Md.—Church.—The congregation of the North Baltimore Reformed Church will build an edifice.

Blue Lick Springs, Ky.—Hotel.—E. T. Calvert, of Louisville, has purchased the Springs property and intends building a hotel.

Bristol, Tenn.—Bank Building.—Crosswell & Thomas have contract for the three-story brick and stone building to be erected for the Bristol Title, Bank & Trust Co. It will cost about \$15,000.

Brownsville, Md.—Church.—The Baptists will build a church.

Catonsville, Md.—Club Building.—The erection of a two-story club building 56x47 feet for the

Catonsville Casino Club is contemplated. G. W. Larman can give particulars.

Catoosa Springs, Ga.—Sanitarium.—The building of a large sanitarium is contemplated. Burton, Penfield & Co., of Chattanooga, Tenn., can give particulars.

Charlotte, N. C.—Church.—The Catholics may build a \$50,000 edifice.

Clover, S. C.—Churches.—The Baptists have awarded contract to a Mr. Fisher for the erection of a church. The Associate Reformed Presbyterians contemplate building an edifice.

Emmis, W. Va.—Hotel.—The Turkey Gap Coal & Coke Co. is erecting a hotel.

Fernandina, Fla.—Hotel.—Architect Naeff has prepared plans for a three-story hotel 200 feet long with two wings to be built on Amelia Beach. The estimated cost is \$35,000.

Fincaisle, Va.—Church.—The Baptists have awarded contract for building their church to J. J. Lankford, of Salem. Wilson & Huggins, of Roanoke, are the architects.

Greenville, Ala.—School Building.—Mr. Perdue has been awarded contract for the \$14,000 school building.

Guntersville, Ala.—Warehouse.—The Guntersville Cotton Warehouse Co. is erecting a storage warehouse 66x165 feet.

Harris Springs, S. C.—Hotel.—Another hotel may be built. J. T. Harris can give information.

Hopkinsville, Ky.—Church.—The Baptists have adopted plans for the \$20,000 church recently mentioned. It is to be a white limestone structure, with red sandstone trimmings, and be 80x130 feet. The spire will have an altitude of 128 feet.

Hopkinsville, Ky.—Church.—The colored Baptists will build an \$8,000 brick and stone church.

Hot Springs, Ark.—Bathhouse.—Clark & Johnson, of Little Rock, have contract for building the \$30,000 bathhouse for Rix & Barnes. Thomas Harding, of Little Rock, prepared the plans.

Huntington, W. Va.—Hall.—Thomas U. Walter has prepared plans for the four-story brick and stone building 48x140 feet for the Y. M. C. A. It will have hydraulic passenger elevator, electric lights, steam heating, etc. The estimated cost is \$30,000.

Jonesboro, Ark.—School Building.—J. W. McBreed and John Kew have contract for erecting the building lately mentioned for the Jonesboro Normal School Co.

Little Rock, Ark.—Herman Kahn will, it is stated, erect a business block.

Louisville, Ky.—Office Building.—The stockholders of the Louisville & Nashville Railroad Co. will likely provide funds for the erection of an office building for the company at their meeting to be held on October 15.

Macon, Ga.—The Macon Hardware Co. will erect a two-story brick building 50x210 feet.

Marshall, Texas.—Church.—The Baptists have awarded contracts for building a brick church. It will cost about \$8,000.

Meade, Tenn.—Church.—The Christians will build a church.

Milledgeville, Ga.—Jail.—The jail lately mentioned will be built by Baldwin county at a cost of \$8,000 or \$9,000. D. B. Sanford will receive bids until October 25.

New Decatur, Ala.—Courthouse.—The plans of W. Chamberlin & Co., of Knoxville, Tenn., have been adopted for the new courthouse. It is to be a two-story brick and stone building 115x72 feet, have a tower with clock and bell and cost \$57,500.

New Orleans, La.—Hotel.—The Olympic Club contemplates building a hotel. Frank Williams can give particulars.

North Middletown, Ky.—College.—A company has been formed to build a college. W. S. Jones can give particulars.

Ocean City, Md.—Hotel.—The Sinepuxent Beach Co. intends building a wing to the Atlantic Hotel next season.

Portsmouth, Va.—Market-house.—W. J. Brent is to secure contract at \$19,000 for building the market-house lately noted. Carpenter & Peebles prepared the plans.

Rome, Ga.—School Building.—A school building will probably be erected at Forestville. F. W. Quarles can give particulars.

Salisbury, Md.—Bank Building, Opera-house, etc.—H. S. Brewington, of Baltimore, will erect a block to contain bank office, opera-house and three stores.

Shreveport, La.—E. M. Smith, agent, has awarded contract to H. Boetz for the erection of three brick business buildings for the Buckner heirs.

Staunton, Va.—Market-house.—The erection of a market-house is contemplated.

Suffolk, Va.—School Building.—It is contemplated to erect an \$8,000 school building. Lee Britt can be addressed.

Suffolk, Va.—Church.—The Episcopalians will build a church.

Sylvania, Ala.—Warehouse.—J. H. Clardy & Son have contract for a cotton warehouse 225x72 feet for D. L. & J. A. Lewis.

Tombuch, Ala.—Hotel.—Dade Sams, of At-

lanta, Ga., is reported as to build a three-story brick hotel on Signal mountain to cost \$30,000.

Washington, D. C.—William H. Miller, of Ithaca, N. Y., has prepared plans for a three-story brick and stone residence 46x53 feet for Justice H. D. Brown. It is to have steam heat, electric lights, etc., and cost about \$15,000.

Way Cross, Ga.—City Hall.—W. W. Sharpe will receive bids until September 25 for the erection of the city hall building.

## RAILROAD CONSTRUCTION.

Alexandria, La.—Railroad.—R. W. Bringham, chief engineer, will at once commence a preliminary survey of the Natchez, Alexandria & St. Louis Railway projected from Natchez via Alexandria to a point in Eastern Texas. The route from Alexandria westward to the terminus in Texas will be gone over first, and then the country between Alexandria and Natchez.

Atlanta, Ga.—Electrical Railroad.—The Atlanta City Street Railway Co. has been chartered by W. I. Zachry, Aaron Haas, Clyde L. Brooks and others to build the railway between Atlanta and Decatur, lately reported. The road will be about nine miles long, and it is contemplated to operate it by electricity. The capital stock is \$25,000.

Bristol, Tenn.—Railroad.—The Holston Valley Railroad Co., mentioned last week as chartered, has been organized with H. W. Dyer, of Detroit, Mich., president; A. F. Willey, general manager, and Robert Willey, secretary. The road will be built either from Bluff City or Bristol through Sullivan county and the timber and mineral lands adjacent to the Holston river and mountains. Work will commence as soon as surveys and right of way are completed and arranged for. It is to be finished within eighteen months.

Camden, Ala.—Railroad.—C. P. Rogers has commenced locating the line of the proposed Montgomery, Hayneville & Camden Railroad.

Catoosa Springs, Ga.—Electrical Railroad.—The purchasers of the Catoosa and Cherokee Springs properties intend building an electrical railroad from the springs to Ringgold. Burton, Penfield & Co., of Chattanooga, Tenn., can give information.

Corpus Christi, Tex.—Electrical Railroad.—P. A. Graham will, it is stated, run the Corpus Christi street railway by electricity.

Davishboro, Ga.—Railroad.—E. A. Rozier, secretary of the East & West Railroad of Georgia, reports that the company will build a railroad from Davishboro to Sparta, and thence to White Plains. Surveying has been commenced, and grading will soon start. He states that there will not be a trestle on the entire line, nor a cut over ten feet deep.

Dublin, Ga.—Railroad.—The Empire & Dublin Railroad, reported last week as sold, was purchased by the bondholders, who will reorganize the company and complete the road to Dublin; also finish and equip the 13½ miles graded between Hawkinsville and Grovania.

Fairmont, W. Va.—Belt Railroad.—The Fairmont Development Co. will be ready to let contract for building its belt railroad within a few weeks.

Galveston, Texas—Railroad.—J. H. Barrett, of Houston, contractor for building the North Galveston, Houston & Kansas City Railroad from Virginia Point to North Galveston, a distance of eighteen miles, has commenced grading. The road is to be later on extended from North Galveston to La Porte, a distance of sixteen miles, there connecting with a road being built to Houston. A proposition is pending and will likely take definite shape within the next thirty days to continue this road from North Galveston, crossing the east bay between Edwards and Smith's points, necessitating seven and a-half miles of bridging and trestling, and proceeding thence to Beaumont. Louis P. Menage, of Minneapolis, Minn., is promoting this enterprise.

Garrett, Texas—Railroad.—A Texas dispatch states that the 52-mile branch of the Texas Central Railway Co. (office, Waco), extending from Garrett to Roberts, has been purchased by Mrs. Hettie Green, of New York city. It is asserted that the road will be extended to Paris, and a company to be known as the United Railways of Texas will be chartered to operate the road. It is stated that the Little Rock & Memphis Railroad will also be built to Paris and operated by the new company.

Hot Springs, N. C.—Railroad.—S. H. Wheaton, of New Brunswick, Canada, has contract for building the 24-inch gauge road from Hot Springs in a northeasterly direction twenty-four miles, lately reported, and has commenced work. The Laurel River & Hot Springs Railroad is the name of the line.

Houston, Texas—Railroad Bridge.—The Youngstown Bridge Co. has secured contract for building a \$60,000 iron bridge across the Brazos river on the Boggy Tank & Houston extension of the Missouri, Kansas & Texas Railroad.

Laredo, Texas—Electrical Railroad.—The street railway company lately mentioned as to apply to the city council for authority to extend its road, will be chartered as the Laredo Electric & Rail-

way Co. by B. M. Hammond, of San Antonio; C. F. Drake, E. S. Harris and others. The capital stock is \$100,000. Charles F. Yeager is secretary, and can give particulars.

New Iberia, La.—Railroad.—C. Kiel, of San Antonio, Texas, has nearly completed grading the 16-mile branch of the Southern Pacific from New Iberia to Abbeville, and tracklaying will commence at once.

Oxford, Md.—Railroad.—The Lancaster, Oxford & Southern Railroad has been completed between Childs and Marley Mills, and surveys will, it is stated, commence October 10, between Providence Paper Mills and Oxford, Pa. Thomas H. Connell, who has contract to build the road to Providence Paper Mills, has been granted an extension to October 20 of the date fixed for completing the work.

Portsmouth, Va.—Belt Railroad. W. C. Farber is surveying the belt railroad lately noted for the Portsmouth Co., J. H. Dineen, president, 333 Walnut street, Philadelphia. The line will be nearly five miles long, and connects the Norfolk & Western with the Seaboard & Roanoke and the Atlantic & Danville, thus giving it an entrance into Portsmouth.

Rome, Ga. Electrical Railroad.—It is learned that the Rome Electric Street Railway Co. has arranged for the resumption of work and the completion of its lines.

San Antonio, Texas. Street Railway.—The petition of Walter H. Grigg and George L. Clayton for a franchise to construct a street railway having been rejected because of the time limit in which to commence work and complete the road being considered too long, the petitioners will renew their application, fixing the time to begin work at within sixty days and allowing one year for completion.

Tampa, Fla.—Street Railway.—The Tampa Suburban Railroad Co. will amend its charter and secure authority to build forty miles of road to be operated by electricity, cable or compressed air.

Tavares, Fla.—Railroad.—The Tavares, Atlantic & Tampa Bay Railway Co. will, it is stated, commence work at once on its line between Tavares and Seneca. Major St. Clair Abrams can give particulars.

Titusville, Fla.—Railroad.—John M. Cook, contractor for building fourteen miles of the Jacksonville, St. Augustine & Indian River Railroad from Titusville to the Indian river, has commenced work and will push to completion.

Victoria, Texas. Railroad.—The Pan-American Railway Co. is expected to be reorganized shortly, and, it is hoped, to resume work by about October 1.

Washington, D. C. Electrical Railroad.—The District of Columbia Suburban Railroad Co., previously mentioned, will shortly complete its organization. Surveys are now being made for the road, which will be operated by electricity. J. C. Rogers, of Bladensburg, Md., can give particulars.

## MACHINERY WANTED

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Boiler.—The Davis-Carpenter Co., Davis, W. Va., will need a boiler.

Boiler.—The Palmetto Manufacturing Co., 191 Congress street, Savannah, Ga., will require a sixty horse-power boiler.

Boiler.—Ice Factory, care of C. W. Tebault, Buena Vista, Va., wants a boiler.

Boiler.—A. D. Ellis, Germantown, Ark., wants to buy a second-hand boiler from twenty-five to forty horse-power.

Box Machinery.—Wesler & Sons, Cana, Va., want tobacco-box machinery.

Brick Machine.—The Calaveras Brick Works, Calaveras, Texas, will probably purchase a dry press brick machine of about 2000 daily capacity.

Canning Factory.—J. S. Robbins, Knoxville, Tenn., is in the market for canning factory machinery.

Cotton-mill Machinery.—The Rock Hill Cotton Factory Co., Rock Hill, S. C., will want looms.

Engine.—The Davis-Carpenter Co., Davis, W. Va., will need an engine.

Engine.—The Palmetto Manufacturing Co., 191 Congress street, Savannah, Ga., will require a twenty horse-power engine.

Engine.—The North Galveston Association, Galveston, Texas, wants to purchase a good second-hand engine, in running order, from fifty to sixty horse-power.

Engine.—Ice Factory, care of C. W. Tebault, Buena Vista, Va., wants an engine.

Engine.—The Coketon Lumber Co., Coketon, W. Va., may want an engine.

Evaporating Machinery.—J. S. Robbins, Knoxville, Tenn., is in the market for evaporating machinery.

Grist Mill.—R. E. Hale, Callaways, Va., wants a mill for grinding corn and bran.

Hooks and Eyes.—J. C. Jennings & Co., Dayton, Tenn., want machinery for the manufacture of hooks and eyes.

Hoop Machinery.—A. Culberson, Anniston, Ala., wants to correspond with manufacturers of barrel hoop machinery.

Ice Machinery.—Ice Factory, care of C. W. Tebault, Buena Vista, Va., wants complete outfit for an ice factory of eight to ten tons capacity.

Iron Fronts.—Mrs. S. J. Ducknall, Braidentown, Fla., wants the address of manufacturers of iron fronts for buildings.

Lath Mill.—The Coketon Lumber Co., Coketon, W. Va., may want a lath mill.

Lathe.—Hare & Tucker, Richmond, Va., will need a turning lathe of 20-inch swing.

Lathe.—The Davis-Carpenter Co., Davis, W. Va., will need a wood turning lathe.

Laundry Machinery.—Ice Factory, care of C. W. Tebault, Buena Vista, Va., wants laundry machinery.

Machine Shop.—G. W. Yeargin, Dyersburg, Tenn., wants to purchase outfit of tools for machine shop, new or second-hand.

Moulding Machine.—Hare & Tucker, Richmond, Va., will need a 10-inch moulding machine.

Pipes and Pump.—The Palmetto Manufacturing Co., 191 Congress street, Savannah, Ga., will require pipes and pumps.

Planer.—The Ritchie Lumber Co., Petroleum, W. Va., will later on need a planer.

Planer.—G. R. Church, Clarksville, Ga., wants to buy a planer to turn out building material.

Planer.—The Coketon Lumber Co., Coketon, W. Va., may want a planer.

Planers.—The South Arkansas Lumber Co., El Dorado, Ark., will purchase planers.

Rails, etc.—Wm. G. Kinney, Staunton, Va., may want rails and further equipment for narrow gauge railroad.

Roofing.—The Davis-Carpenter Co., Davis, W. Va., will likely want roofing.

Saw.—Hare & Tucker, Richmond, Va., will need a jig saw.

Saw.—The Davis-Carpenter Co., Davis, W. Va., will need a cut-off saw.

Saw.—The Davis-Carpenter Co., Davis, W. Va., will need a gig saw.

Saw Mill.—The Ritchie Lumber Co., Petroleum, W. Va., will later on need another portable saw mill.

Saw Mill.—The Coketon Lumber Co., Coketon, W. Va., may want another saw mill.

Shafting.—The Palmetto Manufacturing Co., 191 Congress street, Savannah, Ga., will require shafting.

Woodworking Machinery.—Wesler & Sons, Cana, Va., want prices on woodworking machinery.

Woodworking Machinery.—G. Regnits, 191 East Franklin street, Richmond, Va., wants machinery for paring pump logs.

## SOUTHERN FINANCIAL NEWS.

### New Banks.

Alexandria, La.—The First National Bank, previously reported, has been organized by J. G. White, O. M. Wilson, of Little Rock, Ark., J. A. Williams and others. The capital stock is \$50,000.

Atlanta, Ga.—The Mercantile Bank will, it is stated, soon commence business with a capital stock of \$100,000. A Mr. Young, of Pittsburg, Pa., will, it is understood, be president.

Middlesborough, Ky.—The First National Bank of Middlesborough has been granted permission to resume business upon the stockholders paying in 50 per cent. of the bank's capital stock.

Tarboro, N. C.—The Tarboro Building and Loan Association will apply to the next legislature for authority to establish a savings bank.

Alexandria, La.—The Alexandria Investment Co. has been chartered by G. W. Arthur, P. N. Clarke and H. W. Rolph. The capital stock is \$25,000.

Baltimore, Md.—The Baltimore City Passenger Railway Co. has declared a dividend of seventy-five cents per share.

Birmingham, Ala.—The Alabama Trust & Savings Co. has declared a semi-annual dividend of 4 per cent.

Dalton, Ga.—The Crown Cotton Mills has declared an annual dividend of 15 per cent.

Denton, Texas.—The Texas Co-operative Investment Co. has been chartered by D. J. Edleman, J. P. Knox and J. B. Walker. The capital stock is \$50,000.

Frankfort, Ky.—The city has sold \$10,500 of bonds for \$10,792.50.

Gadsden, Ala.—The Gadsden Building and Loan Association has declared a semi-annual dividend of 11 per cent.

Kingston, Tenn.—The issuance of \$50,000 of bonds by Roane county to aid in the construction of the Nashville & Knoxville Railroad is proposed.

Lafayette, La.—H. B. Ray, Moss Bros & Co., Crow Girard and others have purchased 126 shares of stock of the People's State Bank of Lafayette from H. C. McClure & Sons, of Gibson City, Ill., at \$10 per share. This transaction places the control of the bank in the hands of local parties.

Lexington, N. C.—The election held last December, at which Davidson county voted to issue \$35,000 of bonds to the Roanoke & Southern Railroad Co., has been annulled because of the failure of that company to carry out the terms of the compact.

Lufkin, Texas.—A branch of the Shreveport Mutual Loan & Investment Co. has been established with W. H. Bonner, president, and with a capital stock of \$25,000.

Memphis, Tenn.—The Concord Building & Loan Co. will be chartered by E. R. Thomas, William Katzenberger, E. R. Hunter and others.

Mobile, Ala.—The Mobile Mortgage & Trust Co. has been organized with Daniel P. Bestor, president, and C. W. Ruth, secretary and treasurer. The capital stock is \$100,000.

Moundsville, W. Va.—A branch of the Baltimore Building and Loan Association has been organized with J. C. Bardall, president.

New Orleans, La.—The Lake Borgne Levee Board has decided to issue \$100,000 of bonds. H. S. Bell, secretary, can give particulars.

Newport News, Va.—A meeting of the stockholders of the Newport News Light & Water Co. will be held on October 18 to consider the issuance of bonds to an amount not exceeding \$1,000,000.

Norfolk, Va.—Robert P. Voight, chairman finance committee city of Norfolk, writes that the city will shortly issue \$35,000 school bonds, \$30,000 improvement bonds and \$114,000 park improvement bonds. They will all be 30-year 5 per cent. bonds.

Paris, Ky.—The Safety Vault & Trust Co. will, it is stated, wind up its affairs and discontinue business.

Piedmont, Ala.—The stockholders of the Piedmont Land & Improvement Co. meet October 11 to consider the borrowing of \$100,000 to be secured by a mortgage on the company's property.

Richmond, Va.—The board of alderman has adopted a resolution providing for the issuing of \$100,000 bonds to continue the construction of the city hall.

Thomasville, Ga.—The Thomasville Real Estate & Improvement Co. has declared a dividend on its first series of stock of 22 per cent.

Vicksburg, Miss.—The city has taken steps to redeem \$15,000 of 10 per cent. bonds outstanding.

Waco, Texas.—McLennan county will issue \$50,000 of bonds for jail improvements. The bonds will be purchased by the county's sinking funds.

Way Cross, Ga.—The Way Cross Loan & Trust Co., referred to in last issue, is a private concern that has been conducted for some time by J. S. Tart. He is now arranging to organize a stock company under the same name.

Weston, W. Va.—It is understood that the Weston Savings Bank will voluntarily liquidate its affairs.

## TRADE NOTES.

The Nordyke & Marmon Co., of Indianapolis, Ind., has contracted to put in a complete 50-barrel roller flour mill at Graham, Texas, for McDonald, Ellis & Co.

J. H. Day & Co., of Cincinnati, Ohio, have just received a large order for their mixing machinery to go to England. Evidently our English cousins appreciate good machinery.

The contract for pumping machinery, including compound duplex pumping engines, deep-well steam pumps, boilers, heater, etc., for Wyoming water works, Wyoming, Ohio, has been awarded to the Laidlaw & Dunn Co., of Cincinnati.

Messrs. RAOSDALE & Co., Greenwood, Miss., have just purchased their entire equipment of machine tools from the Lodge & Davis Machine Tool Co., of Cincinnati, Ohio, the well-known manufacturers of iron and brassworking machinery.

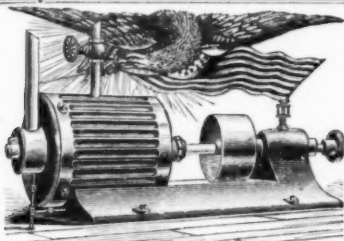
On September 1 the C. C. McColgan Co. changed to the National Building Supply Co., of Baltimore, Md. The same officers continue: J. J. Kelly, president; F. E. Camp, vice-president; Chas. S. Houghton, treasurer, and H. P. Boyd, secretary.

The Van Winkle Gin & Machinery Co., of Atlanta, Ga., have been compelled to place an electric-light plant in their works, and are now running sixteen hours a day in order to keep up with orders for gins, cottonseed-oil and ice-making machinery.

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**MACON—American National Bank.** Wm.  
H. Burden, President. Capital \$250,000.

**MACON—Exchange Bank,** H. J. Lamar,  
President; J. W. Cabaniss, Cashier. Capital  
and surplus \$550,000.

**MACON—First National Bank,** J. C. Plant,  
President. Capital and surplus \$260,000.

### SOUTH CAROLINA.

**COLUMBIA—Carolina National Bank,**  
W. A. Clark, President. Capital \$100,000.

### VIRGINIA.

**BUENA VISTA—Buena Vista Loan &  
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Florida Shingle Mills, Brooksville, Fla.  
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For the convenience of the many readers of the MANUFACTURERS' RECORD it has been deemed advisable to collect under this head a reliable list of Realty Agencies of the Southern States. The value of such a list for the purpose of Ready Reference will immediately become apparent to all who are interested in the growth of this section.

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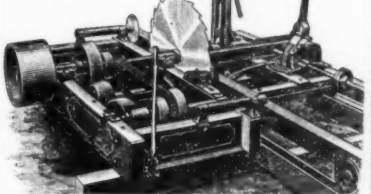
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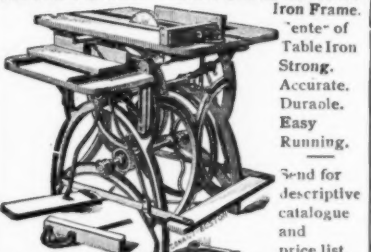
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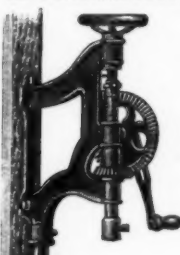


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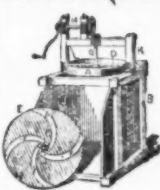


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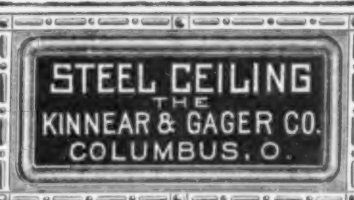
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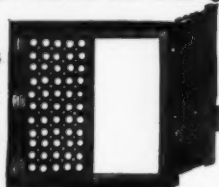
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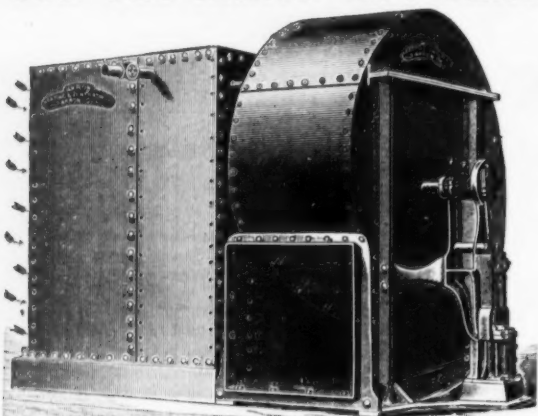
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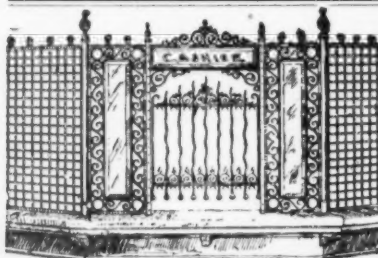
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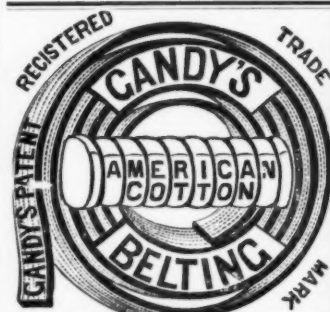
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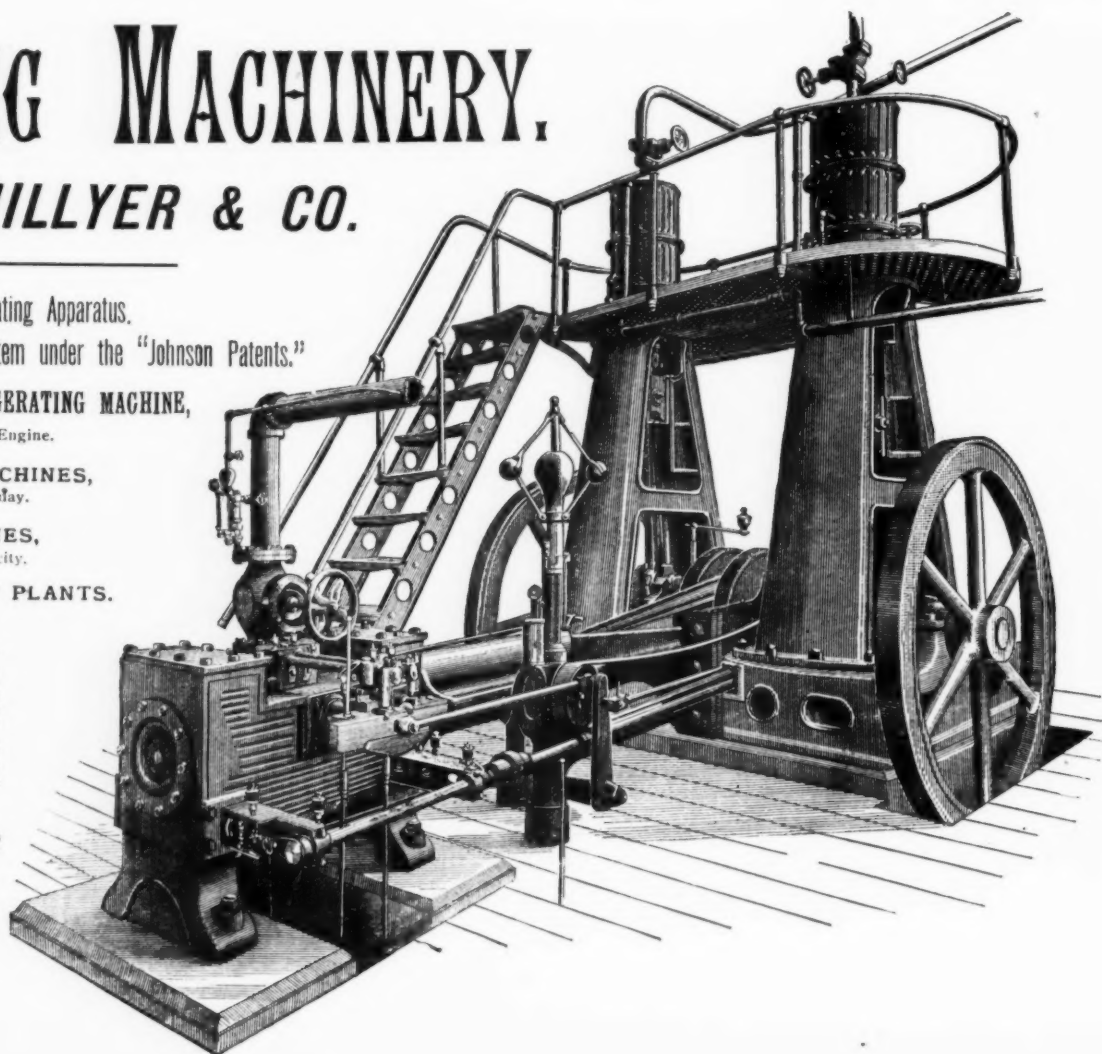
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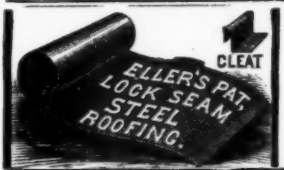


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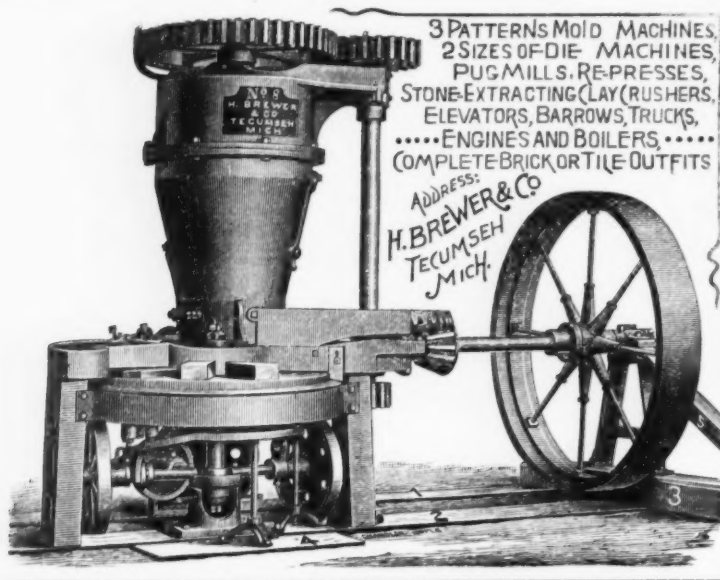
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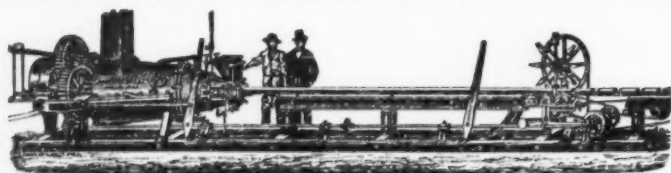
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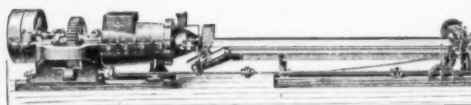
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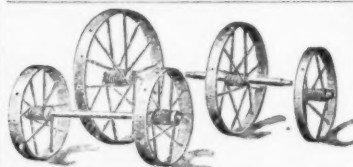
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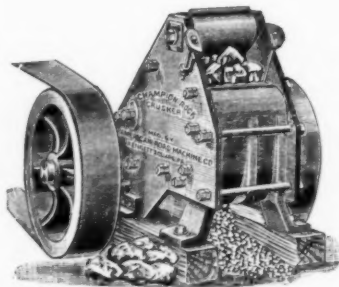
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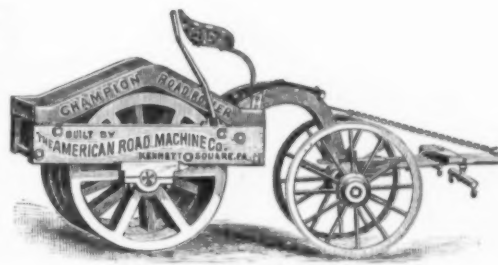
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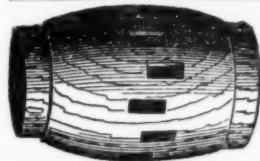
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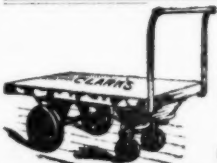


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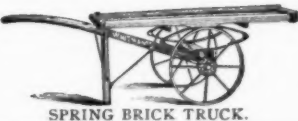
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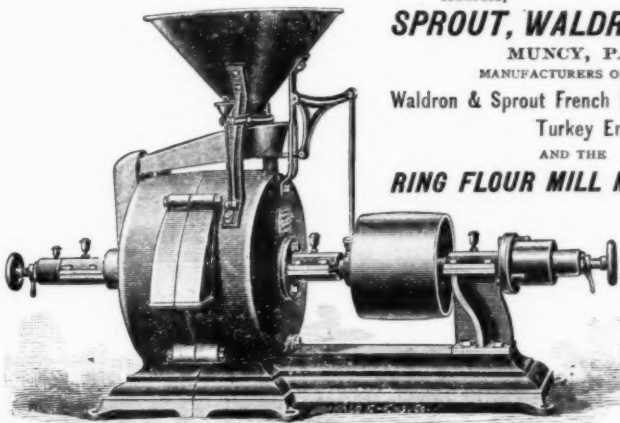
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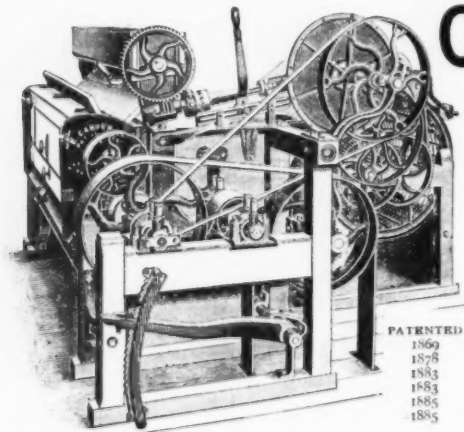
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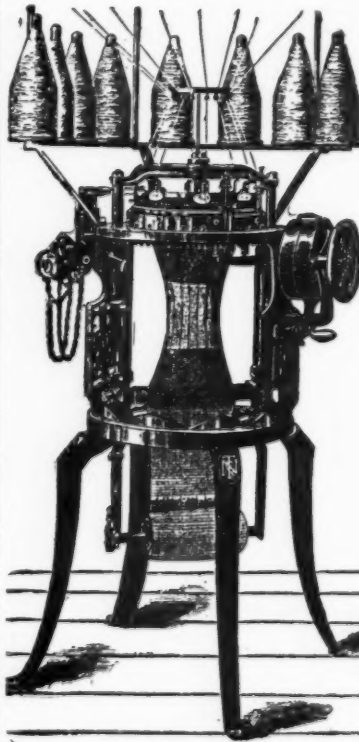
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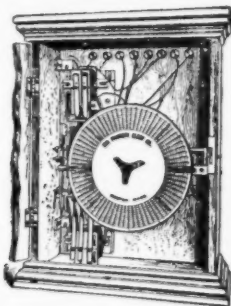
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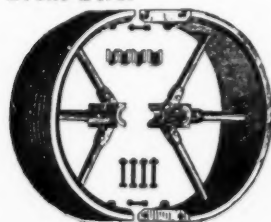
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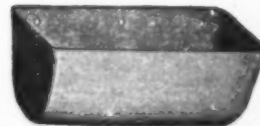
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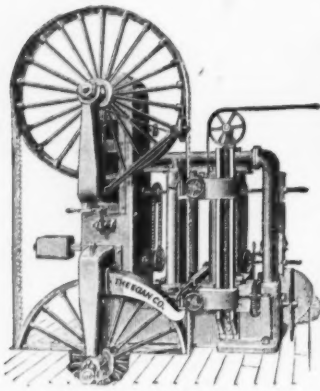
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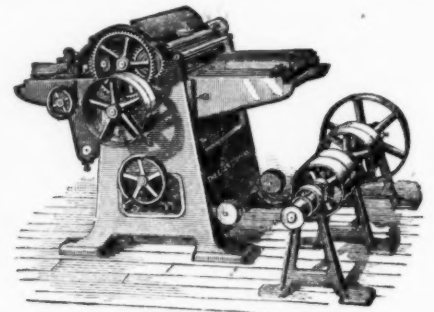
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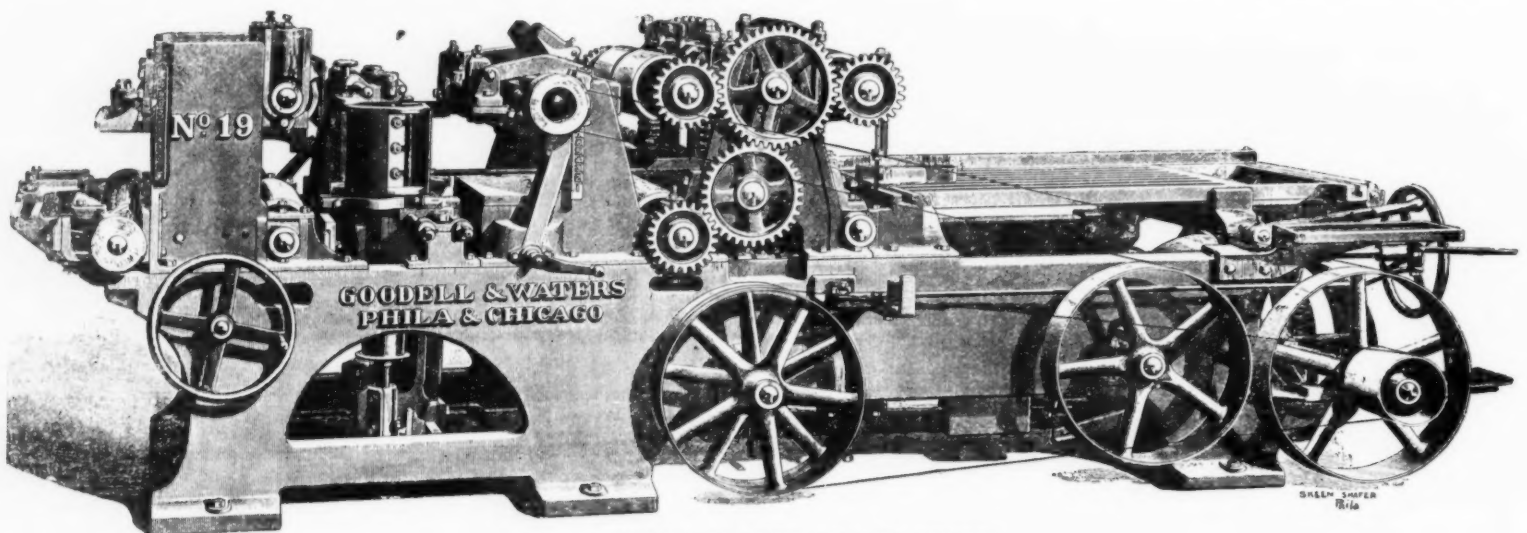
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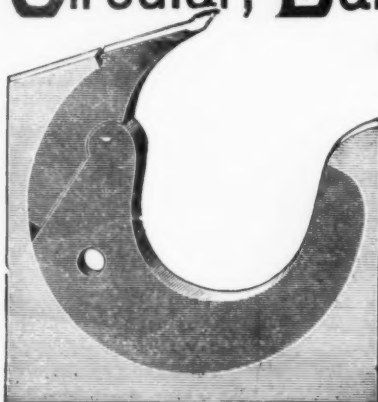
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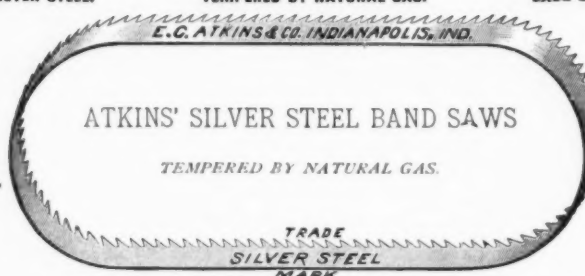


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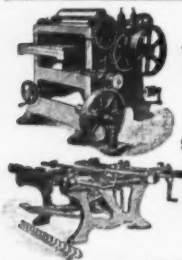


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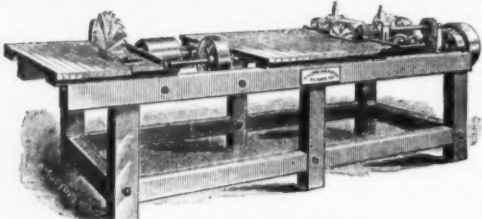
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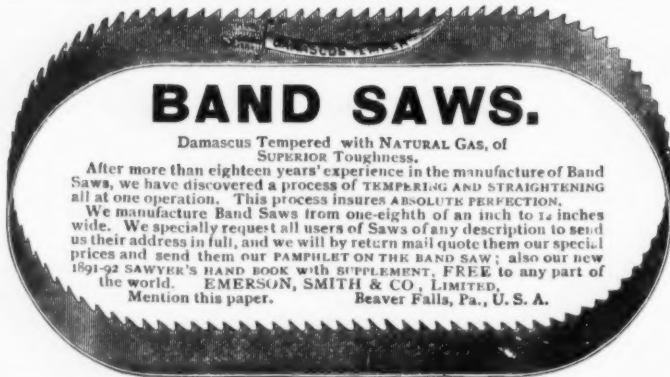
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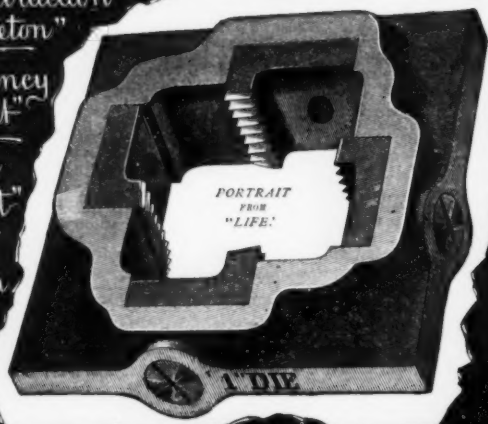
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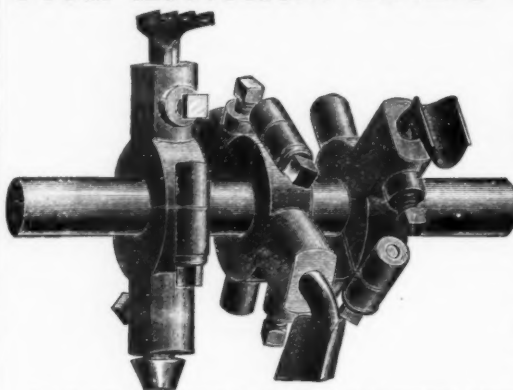
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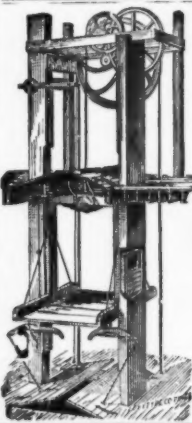
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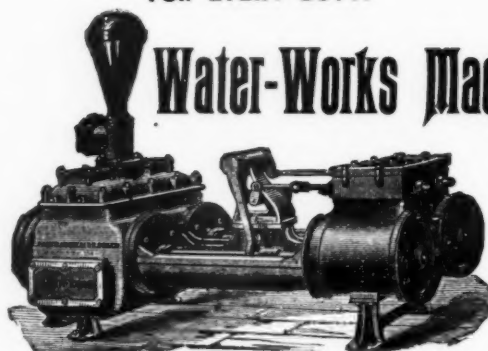
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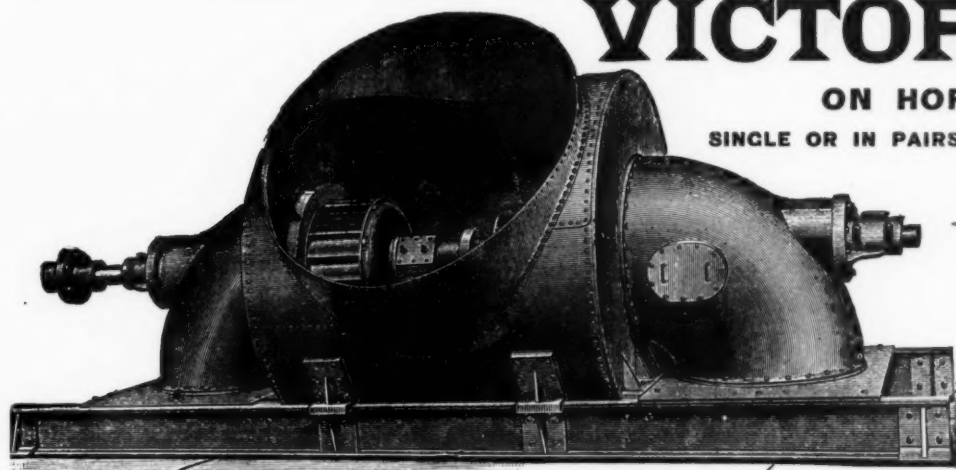
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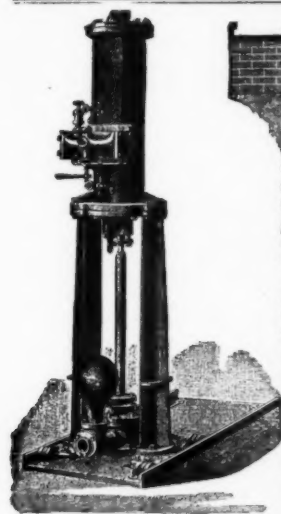
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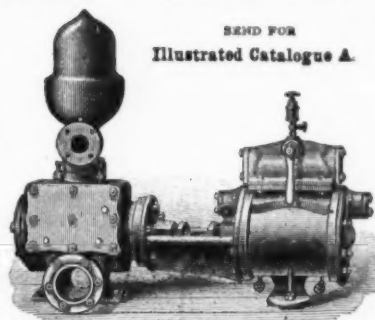
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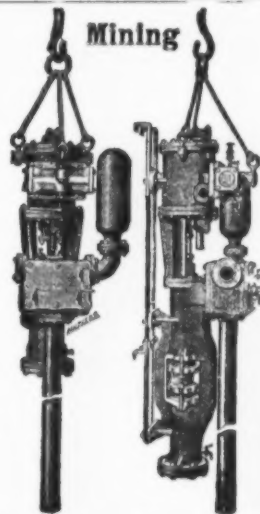


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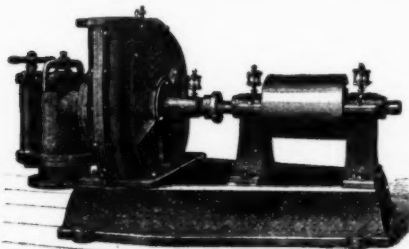
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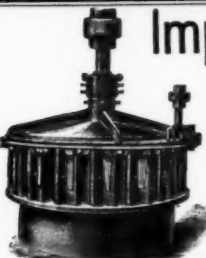
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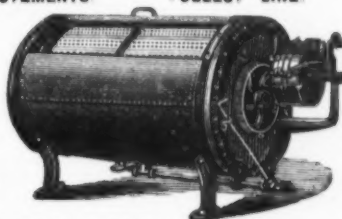
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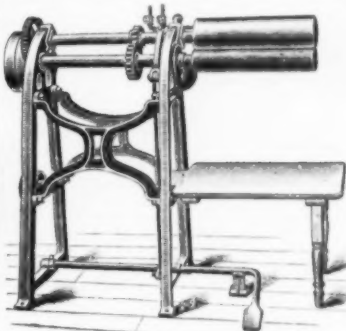
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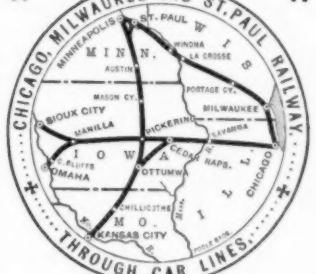
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No. 216 Water Street, Baltimore, Md.

## MURRELL'S LINE

PRIME

## BRUNSWICK to LIVERPOOL and BREMEN.

The Only South Atlantic Direct Line to European Ports.

SHORTEST ROUTE TO EUROPE.

Commencing September 30th, 1892, the following Steamships will make regular sailings from Brunswick, Ga., to Liverpool and Bremen:

Steamship	Tons	Master
WIVENHOE	1891	CLARK
HAY-GREEN	1869	BLACKLAW
J. M. LOCKWOOD	1772	JENKINS
STOKRA-LEE	1734	BAILEY
DEERHILL	1733	BAINBRIDGE

Additional Steamships will be placed on the line as business warrants.

S. S. DEERHILL will sail from Liverpool for Brunswick September 1st.

S. S. HAY-GREEN will sail from Brunswick for Liverpool September 30th.

Consignments solicited to all points in United Kingdom and Continent of Europe.

For Freight, Passage and general information apply to

**THE BRUNSWICK TERMINAL CO.**

General Agents, BRUNSWICK, GA.

Or Messrs. C. E. DeWOLF & Co., Agents,

28 Brunswick Street, Liverpool, England

## POPULAR AND DIRECT ROUTE.

## THE BAY LINE

For Old Point Comfort, Norfolk and the South.

Steamers leave daily (except Sunday) Union Dock 6.30 P. M. Canton Wharf 7 P. M.; arrive Old Point Comfort 7 A. M. at Norfolk at 8 A. M., Portsmouth 8.15 A. M. At OLD POINT COMFORT connect with CHESAPEAKE & OHIO RAILROAD for Richmond, Charlottesville, Greenbrier, White Sulphur Springs, Louisville, Cincinnati and all points West. At NORFOLK with NORFOLK & WESTERN RAILROAD for Petersburg, Richmond, Lynchburg, Roanoke, Bristol, Knoxville, Chattanooga, Memphis and the Southwest; also with the NORFOLK SOUTHERN RAILROAD for Elizabeth City, Edenton and Eastern North Carolina. At PORTSMOUTH, VA. with SEABOARD & ROANOKE RAILROAD for Weldon, Raleigh, Southern Pines, Pine Bluff Health Resort, Peachland, Mount Holly, Charlotte, Fayetteville, Newberne, Wilmington, Charleston, Columbia, Augusta, Savannah, Jacksonville and all PRINCIPAL SOUTHERN CITIES.

Palace Steamers, Unsurpassed Cuisine, Undisturbed Night's Rest. Sore Connection.

For tickets and information apply at Company's Office, 139 E. Baltimore Street,

or on board steamers.

**E. BROWN G. T. A.** **KENFON JONES, Agt.**

# NORTH WILKESBORO,

## NORTH CAROLINA,

One of the Conspicuous Successes of the Year in Town Building,  
Presents the Following Record:

Population March 4, 1891, actual count, 48.

Population March 4, 1892, actual count, 348.

Gain in one year 625 per cent.

Townsite purchased November 11, 1890; act of incorporation passed by the Legislature, March 4, 1891; first lot sold at private sale, May 12, 1891. Within the first year of its existence ten miles of streets have been graded, and \$22,000 spent in public improvements. Where prior to March 4, 1891, there was only a farm settlement without pretensions to being even a village, there is to-day a thriving, busy, growing, trading and manufacturing center, with

A Large Well-Kept Hotel,  
The Bank of North Wilkesboro, \$40,000 Capital,  
A large Livery and Sale Stable,  
Two Large Wholesale Stores,  
One Hardware Store,  
One Furniture Store,  
Ten General Merchandise Stores,  
Three Saw Mills, Sash and Blind Factories,  
One Foundry and Machine Shop,  
A Handsome, Well-Edited, Home Print Newspaper, The North Wilkesboro News,  
One School,  
Two Churches Under Way,

Two Brick Yards in operation, and a number of other enterprises practically secured.

Arrangements are about completed for a Woolen Mill.

A large iron front brick block, containing Bank Building, two Store Rooms, Opera House, and Printing Office; A graded School Building and an Iron Bridge across the Yadkin River, in the Eastern part of town, will be completed during the spring and summer.

Turnpike roads to Tennessee and Virginia are about completed; county roads leading into town are being improved and numerous good new ones built, with the intention of making this the center for all the wagon trade of this section.

A tobacco warehouse for the sale of the high grade leaf of this district will be built during the summer, so as to give a home market for the tobacco crop that will be grown this year.

*Compare this record with that of any other new town you have heard of during the past dull season.*

## NORTH WILKESBORO,

Is 75 miles west of Winston-Salem, at the present terminus of the Northwestern North Carolina Railroad, which when ultimately completed to Bristol, Tenn., will give the shortest route between Norfolk and Cincinnati. North Wilkesboro is the most important trading point between Winston-Salem and Bristol, and is in the center of the great undeveloped mineral and timber district of Northwestern North Carolina, being by United States Postal Map on an air line 75 miles southeast of Bristol, 45 miles east of Cranberry, N. C., 40 miles north of Statesville, 45 miles northeast of Hickory, 90 miles northeast of Asheville, 45 miles southeast of Mt. Airy, and 80 miles south of the Norfolk & Western Railroad, in the valley of the Yadkin, between the Brushy Mountains on the South and the Blue Ridge on the North. Climate, healthfulness, water, drainage and location unsurpassed by any town in North Carolina.

The townsite consists of 1,088 acres, located, by the way on a farm originally owned by General John B. Gordon's grandfather. The first public auction sale of lots was held December 2, 1891, and 188 lots were sold. Purchasers have in many cases been able to resell at a handsome profit. The company has sold 50 lots at private sale since then, on many of which houses are now being erected. It is a significant fact that among the business buildings erected a large per cent. are substantial brick structures, while for architectural beauty and cost many of the residences are much superior to those usually found in a town so young.

At the second auction sale, May 11th, 1892, 35 business lots and 44 residence lots sold for \$16,490, an average of \$8.35 per front foot, which is \$2.53 per front foot (or 44 per cent.) more than the average at the sale last December, which was the best sale made in North Carolina during last year. Since the sale, a contract has been closed for the location of another large saw mill, planing mill, sash, door and blind factory combined, which will do a large shipping business. A contract is closed for the location of extract works with a capital stock of \$300,000. The plant will cost \$125,000 and will cover six acres of land. Twelve families from the North will move down. The company will erect a large electric-light plant in connection with the extract works. North Wilkesboro will get there and will not be long doing so.

Through the townsite runs a stratum of serpentine stone, 200 feet in width, and also a bed of iron ore equal in quality to that of Cranberry. The Town Company also owns 4,100 acres of mineral, granite and timber lands in Wilkes County. It is probable that the work of developing the great mineral and timber interests of the section will be commenced in a short time, and on an extensive scale.

*Sites will be donated and stock subscribed to such manufacturing enterprises as may be advantageously located here.*

The policy of the Company is a most liberal one in this respect, it being determined to aid all legitimate enterprises to any reasonable extent. There are 328 miles of water courses within the borders of Wilkes County, furnishing to the vicinity of North Wilkesboro a water power as great as Fall River. The climate, while not moist, is neither harsh nor dry, and is especially suitable to the spinning of fine cotton yarns, such as cannot be made in the extreme South or North. There is also a fine opportunity here for bleacheries, to the establishment of which at Southern points there is a tendency at present. As they can't go where sluggish streams, impregnated with vegetable matter, abound, the quick flowing streams of clear mountain water, so numerous about North Wilkesboro, afford everything desired. Numerous other industries will do well at North Wilkesboro, and will be most substantially encouraged to locate there.

Capitalists, Home Seekers, Health Seekers, Manufacturers of wood and iron, and many other industrial workers may well investigate North Wilkesboro's advantages.

The above-described townsite and other property belongs to the Winston Land & Improvement Co., which was chartered by act of Legislature, session of 1887; ratified March 4, 1887, chapter 82. Authorized capital \$1,000,000. Present capital stock \$125,000, all subscribed and paid up.

**OFFICERS**—G. W. HINSHAW, President, of Hinshaw & Medearis, Wholesale Merchants; Vice-President People's National Bank, Winston, N. C. DR. W. L. BROWN, Vice-President, of Brown Brothers, Tobacco Manufacturers, Winston, N. C. W. F. TROGDON, Secretary and Treasurer, North Wilkesboro, N. C.

**BOARD OF DIRECTORS**—GEO. W. HINSHAW, Winston, N. C. MAJ. CHANNING M. BOLTON, Chief Engineer Richmond & Danville Railroad, Washington, D. C. P. H. HANES, of P. H. Hanes & Co., Tobacco Manufacturers, Winston, N. C. COL. J. M. WINSTEAD, Cashier Piedmont Bank, Greensboro, N. C., and President H. P. Scales Tobacco Co., Atlanta, Ga. A. A. FINLEY, ESQ., Mayor of North Wilkesboro, N. C.

**ATTORNEYS**—T. B. FINLEY, ESQ., North Wilkesboro, N. C. HON. C. B. WATSON, Winston, N. C. HON. J. C. BUXTON, President First National Bank, Winston, N. C. HON. W. W. BARBER, Wilkesboro, N. C.

PLATS, PRICES AND ANY DESIRED INFORMATION PROMPTLY FURNISHED ON APPLICATION TO

W. F. TROGDON, Secretary and Treasurer,

NORTH WILKESBORO, N. C.



# As A LOCATION for Manufactures

Of Iron and Wood and for General Industrial and  
Business Enterprises,

## FRONT ROYAL, VA.

INVITES INVESTIGATION.

---

Its location, at the junction of the Norfolk & Western Railroad (Shenandoah Valley line) and the Richmond & Danville's branch, give it excellent transportation facilities. It is only a few hours' ride distant from Washington.

The Norfolk & Western's direct line to Washington will be built from Front Royal.

---

*There is no Finer Agricultural Country in the World than the Famed Shenandoah Valley, in which Front Royal is Located.*

---

A WIDE RIVER WITH SWIFT CURRENT FURNISHES WATER POWER  
AND MAKES DRAINAGE PERFECT.

---

Front Royal is a Prosperous Town, with an Extensive Mercantile Business  
and Many Manufacturing Enterprises in Operation and  
Under Construction.

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INVESTIGATION OF ITS ADVANTAGES IS INVITED BY THE

Front Royal--Riverton Improvement Company,

FRONT ROYAL, VIRGINIA.

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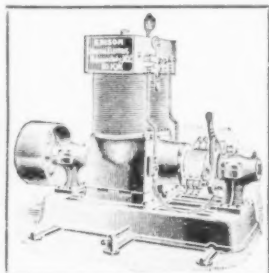
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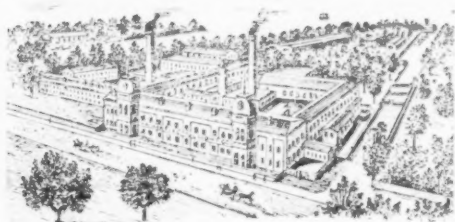
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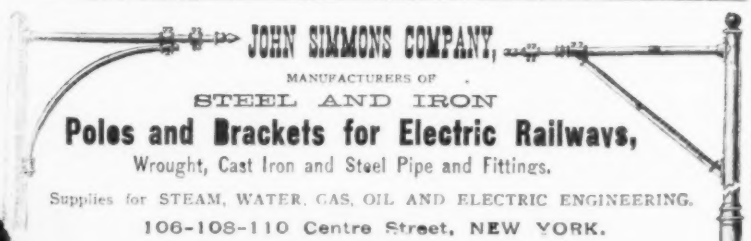
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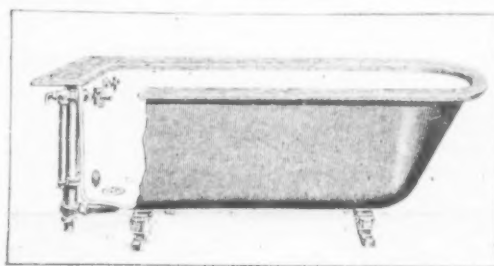
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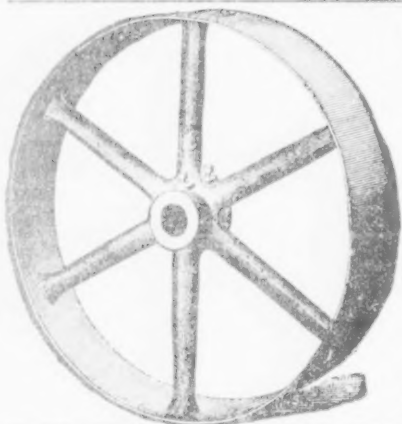
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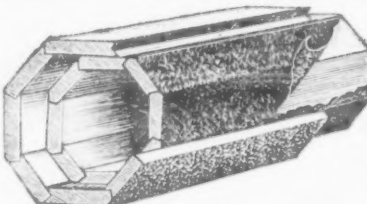
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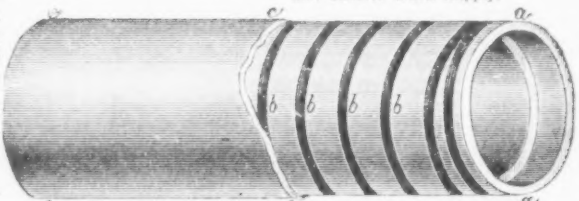
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